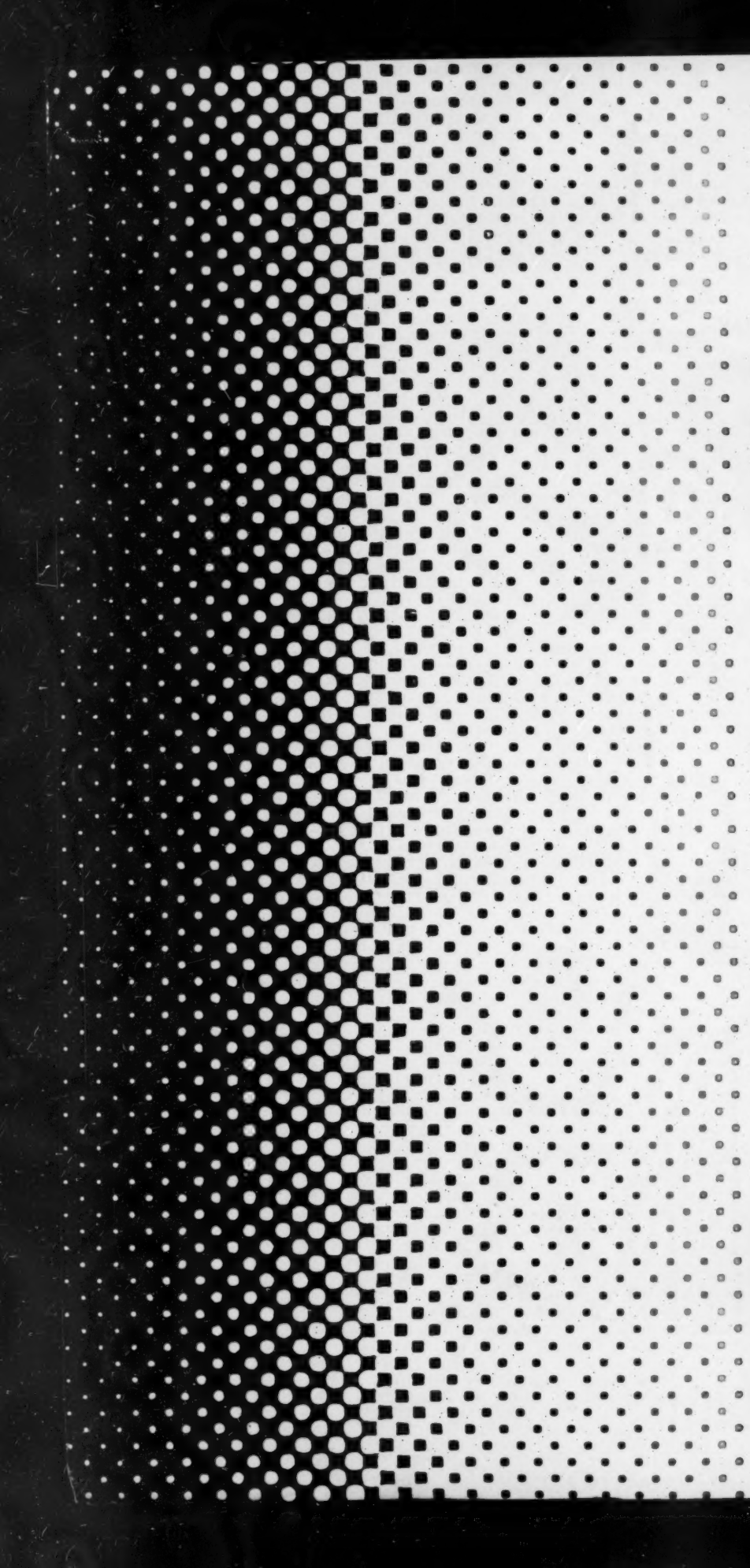
MEDICAL
TIMES
Journal for the Family Physician

August, 1961

PROFESSIONAL LIABILITY AS A NEW PROBLEM IN THE PRACTICE OF MEDICINE

HOSPITAL LIABILITY FOR MEDICAL MALPRACTICE

PEDIATRIC ANESTHESIA TODAY



a spreading pattern of therapeutic success

A rewarding approach to the emotional and somatic manifestations of anxiety, agitation and tension, Librium therapy is now being utilized in many different areas of general practice. Approximately 3.5 million Librium-treated cases, as well as more than 70 published reports, offer testimony to this spreading pattern of therapeutic success. They corroborate observations, gained over a span of more than three years, that Librium is pharmacologically and clinically **in a class by itself.**

Librium has been found of value in alleviating anxiety and tension associated with:

- **emotional disturbances**
- **personality disorders**
- **cardiovascular conditions**
- **gastrointestinal disorders**
- **gynecologic disorders**
- **dermatologic conditions**
- **psychiatric disorders**

Consult literature and dosage information, available on request, before prescribing.

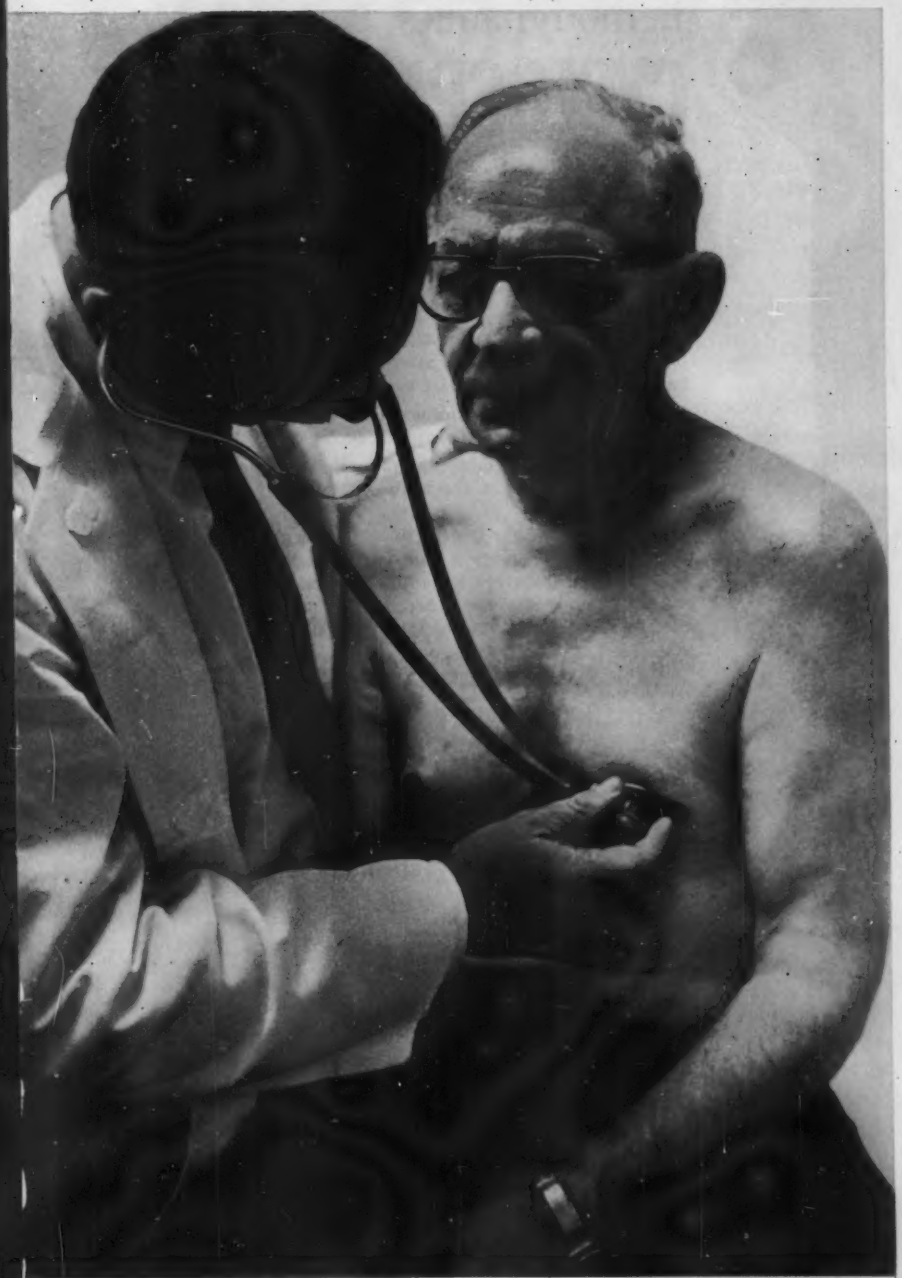
LIBRIUM

THE SUCCESSOR TO THE TRANQUILIZERS

LIBRIUM® Hydrochloride—
7-chloro-2-methylamino-5-phenyl-3H-1,
4-benzodiazepine 4-oxide hydrochloride

ROCHE
LABORATORIES
Division of Hoffmann-La Roche Inc.

Hypertension and congestive failure controlled with Serpasil®-Esidrix®



Photographs used with permission of the patient.

Serpasil®-Esidrix®
(reserpine and hydrochlorothiazide CIBA)

Mr. H.V., a 61-year-old retired pharmacist with hypertensive arteriosclerotic heart disease, was hospitalized in 1957 after a myocardial infarction. Blood pressure at this time ranged from 176/100 to 184/106 mm. Hg. The patient had associated congestive failure with ankle edema and dyspnea.

Serpasil-Esidrix Tablets #1 were added to the existing regimen of digitalis and low-salt diet in April, 1959. In the first 6 weeks of treatment, blood

pressure decreased steadily to a range of 156/80 to 166/84 mm. Hg. Examination at the end of 6 weeks revealed no evidence of congestive failure. Neck veins were no longer distended; ankle edema was not present.

Mr. V.'s blood pressure is now stabilized at a satisfactory level and he has had no side effects from Serpasil-Esidrix. He can climb stairs without shortness of breath; he gets around more easily and feels better generally. Serpasil-Esidrix combines in one tablet the antihypertensive and calming effects of Serpasil with the diuretic and antihypertensive-potentiating actions of Esidrix — for control of high blood pressure plus many complications.

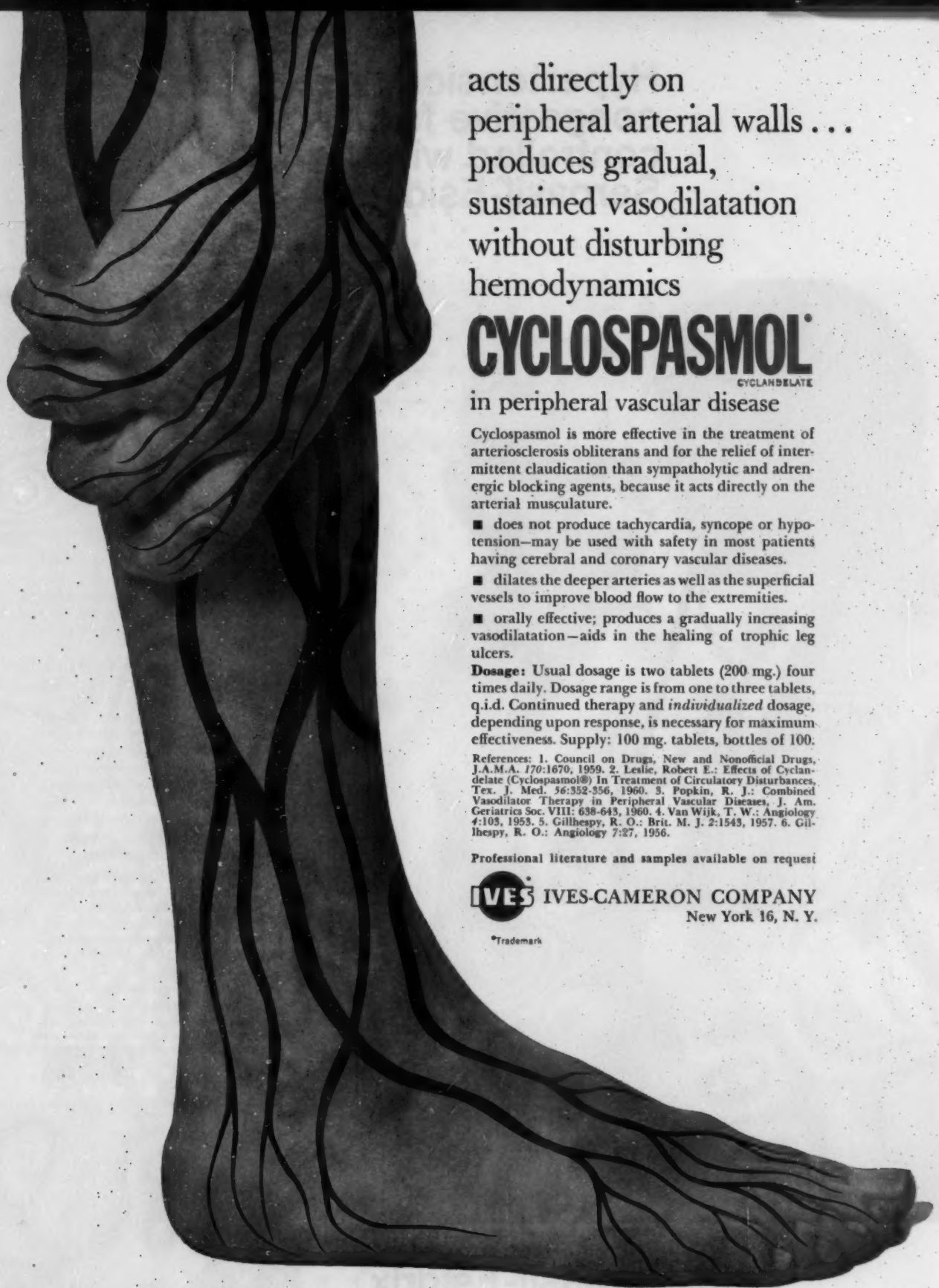
SUPPLIED: Tablets #2 (light orange), each containing 0.1 mg. Serpasil and 50 mg. Esidrix; bottles of 100.
Tablets #1 (light orange), each containing 0.1 mg. Serpasil and 25 mg. Esidrix; bottles of 100.

SERPASIL® (reserpine CIBA)
ESIDRIX® (hydrochlorothiazide CIBA)

For complete information about Serpasil-Esidrix (including dosage, cautions, and side effects), see 1961 Physicians' Desk Reference or write CIBA, Summit, N. J.

CIBA
SUMMIT • NEW JERSEY

2/2960MB



acts directly on
peripheral arterial walls . . .
produces gradual,
sustained vasodilatation
without disturbing
hemodynamics

CYCLOSPASMOL®

CYCLANDELATE

in peripheral vascular disease

Cyclospasmol is more effective in the treatment of arteriosclerosis obliterans and for the relief of intermittent claudication than sympatholytic and adrenergic blocking agents, because it acts directly on the arterial musculature.

- does not produce tachycardia, syncope or hypotension—may be used with safety in most patients having cerebral and coronary vascular diseases.
- dilates the deeper arteries as well as the superficial vessels to improve blood flow to the extremities.
- orally effective; produces a gradually increasing vasodilatation—aids in the healing of trophic leg ulcers.

Dosage: Usual dosage is two tablets (200 mg.) four times daily. Dosage range is from one to three tablets, q.i.d. Continued therapy and *individualized* dosage, depending upon response, is necessary for maximum effectiveness. Supply: 100 mg. tablets, bottles of 100.

References: 1. Council on Drugs, New and Nonofficial Drugs, J.A.M.A. *170*:1670, 1959. 2. Leslie, Robert E.: Effects of Cyclandelate (Cyclospasmol®) In Treatment of Circulatory Disturbances, Tex. J. Med. *56*:352-356, 1960. 3. Popkin, R. J.: Combined Vasodilator Therapy in Peripheral Vascular Diseases, J. Am. Geriatrics Soc. VIII: 638-643, 1960. 4. Van Wijk, T. W.: Angiology *4*:103, 1953. 5. Gillhespy, R. O.: Brit. M. J. *2*:1543, 1957. 6. Gillhespy, R. O.: Angiology *7*:27, 1956.

Professional literature and samples available on request

IVES IVES-CAMERON COMPANY
New York 16, N. Y.

*Trademark

CONTENTS

Medical Times is published monthly by Romaine Pierson Publishers, Inc., with publication offices at 34 North Crystal Street, East Stroudsburg, Pa. Executive, advertising and editorial offices at 1447 Northern Boulevard, Manhasset, L. I., N. Y. Accepted as controlled circulation publication at East Stroudsburg, Pa. Postmaster: If undelivered, please send form 3579 to Medical Times, 1447 Northern Boulevard, Manhasset, Long Island, N. Y.

BUFFERIN®

a basic drug in the management of

ARTHRITIS

"Despite all of the newer so-called "miracle drugs," salicylates still remain the most effective antirheumatic and analgesic agents in the treatment of arthritis."*

"Most of the patients seeking relief of symptoms are usually in the stage of exacerbation and remission, with only slight deformities. . . . In that group, the best results are obtained from a combination of salicylates and steroids in addition to physical therapy. Bufferin is given in varying doses until maximum results have been obtained."*

". . . Bufferin should be taken on arising to overcome stiffness, and the dose should usually be repeated before each physical therapy procedure to prevent excessive pain. Two tablets of Bufferin are also taken at bedtime to reduce pain, thus allowing the individual to fall asleep."*

*Paul, W. D.: Rehabilitation in Rheumatoid Arthritis, South. M. J. *53*:492 (April) 1960.

CONTENTS

Continued

The young patient looks just a bit sad as she watches Dr. Jones begin to remove the cast. Our guess is her thoughts run something like this: "It will be off in a minute. I wonder how it will feel. . . . A broken leg is no fun, but it kind of makes you the center of attraction for a while. That was fun. All my friends, Mom and Dad—and even the doctor—autographed the cast. Maybe I can hang it up in my room, right next to the picture of Trigger." Painting by Melbourne Brindle.

IN FUNCTIONAL G.I. AND BILIARY DISTURBANCES ...TO EACH PATIENT ACCORDING TO THE NEED

DECHOLIN-BB®

Hydrocholeretic • Antispasmodic • Sedative...to reduce *TENSION* and anxiety-induced dysfunction of G.I. and biliary tracts...and also relieve both smooth-muscle *spasm* and biliary/intestinal *stasis*

butabarbital sodium ..... 15 mg. (¼ gr.)
(Warning–may be habit forming)
dehydrocholic acid, AMES ..... 250 mg. (3¾ gr.)
belladonna extract ..... 10 mg. (⅙ gr.)

DECHOLIN® with Belladonna

Hydrocholeretic–Antispasmodic...to relax *SPASM* of smooth muscle of G.I. tract and sphincter of Oddi...and also counteract biliary/intestinal *stasis*

dehydrocholic acid, AMES ..... 250 mg. (3¾ gr.)
belladonna extract ..... 10 mg. (⅙ gr.)

DECHOLIN®

Hydrocholeretic...to combat *STASIS* in bowel and biliary tract...by activating biliary function with a greatly increased flow of aqueous "therapeutic" bile

dehydrocholic acid, AMES ..... 250 mg. (3¾ gr.)

Average adult dose: 1 or, if necessary, 2 tablets three times daily.

Side effects: DECHOLIN by itself, or as an ingredient, may cause transitory diarrhea. Belladonna in DECHOLIN with Belladonna and DECHOLIN-BB may cause blurred vision and dryness of mouth.

Contraindications: Biliary tract obstruction, acute hepatitis, and (for DECHOLIN with Belladonna and DECHOLIN-BB) glaucoma.

Precautions: Periodically check patients on DECHOLIN with Belladonna and DECHOLIN-BB for increased intraocular pressure. Also observe patients on DECHOLIN-BB for evidence of barbiturate habituation or addiction, and warn drivers against any risk of drowsiness.

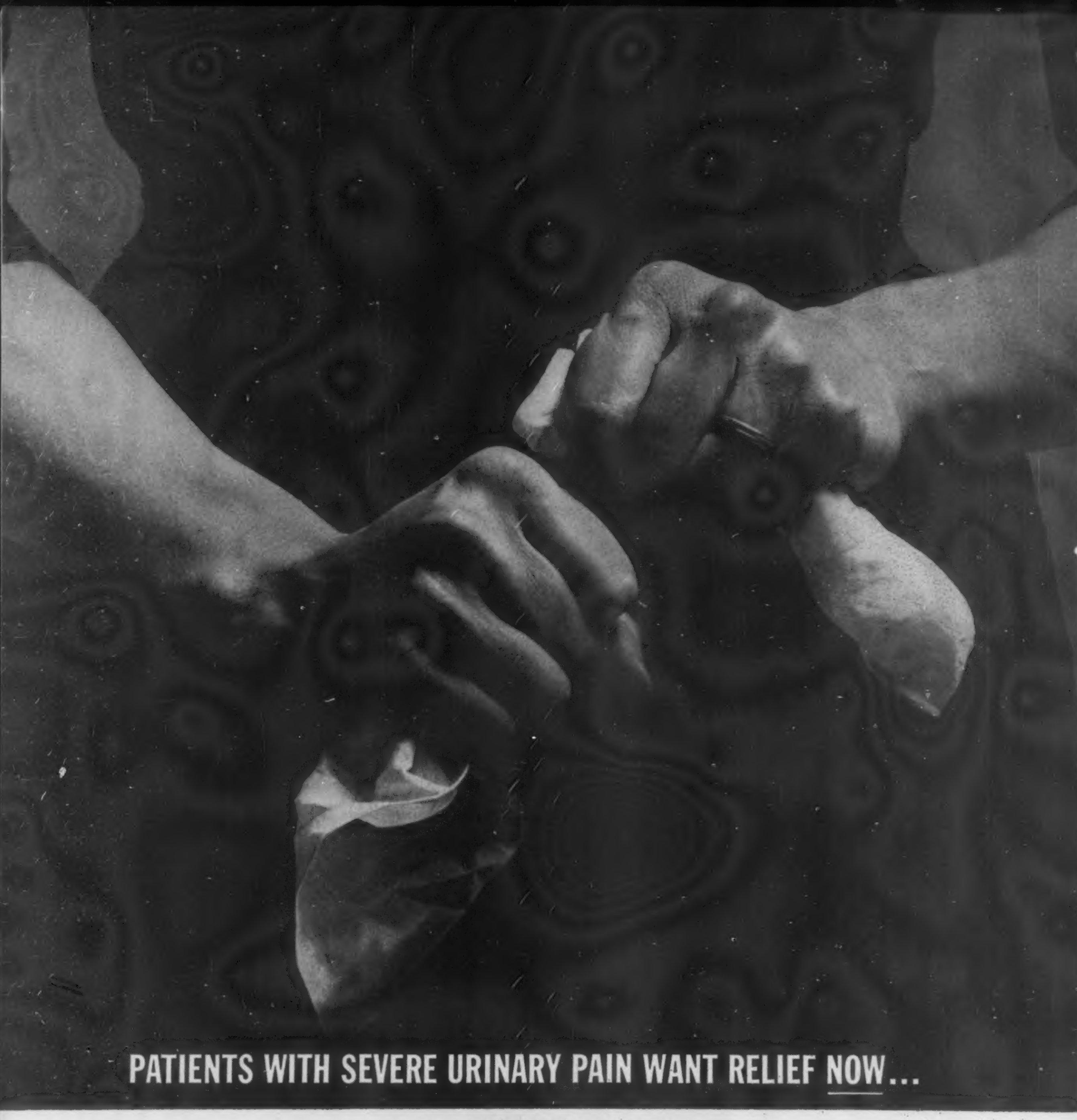
Available: DECHOLIN-BB, in bottles of 100 tablets; DECHOLIN with Belladonna and DECHOLIN, in bottles of 100 and 500.

11161

AMES
COMPANY, INC
Elkhart • Indiana
Toronto • Canada

CONTENTS

Continued



CONTENTS

Concluded

in the wide middle region of pain

Percodan®

(Salts of Dihydrohydroxycodeinone and Homatropine, plus APC)

TABLETS

fills the gap between mild oral and potent parenteral analgesics[1-7]

- **acts in 5-15 minutes**
- **relief usually lasts 6 hours or longer**
- **toleration excellent... constipation rare**
- **sleep uninterrupted by pain**

Each Percodan* Tablet contains 4.50 mg. dihydrohydroxycodeinone HCl, 0.38 mg. dihydrohydroxycodeinone terephthalate (warning: may be habit-forming), 0.38 mg. homatropine terephthalate, 224 mg. acetylsalicylic acid, 160 mg. acetophenetidin, and 32 mg. caffeine.

for fast and thorough pain relief

AVERAGE ADULT DOSE
1 tablet every 6 hours. May be habit-forming. Federal law permits oral prescription.

Also Available
For greater flexibility in dosage — Percodan®-Demi: The complete Percodan formula, but with only half the amount of salts of dihydrohydroxycodeinone and homatropine.

1. Blank, P., and Boas, H.: Improved analgesia for moderate pain. Ann. West. Med. & Surg. 6:376, 1952. 2. Bonica, J. J., et al.: The management of postpartum pain with dihydrohydroxycodeinone (Percodan): Evaluation with codeine and placebo. West. J. Surg. 65:84, 1957. 3. Cass, L. J., and Frederick, W. S.: A controlled study in pain relief. M. Times 84:1318, 1956. 4. Chasko, W. J.: Pain-free dental surgery: Postoperative extension of the pain-free state. J. District of Columbia Dent. Soc. 31:3, No. 5, 1956. 5. Cozen, L.: Office Orthopedics, ed. 2, Philadelphia, Lea & Febiger, 1953, pp. 120, 138, 145, 156, 234. 6. Nicolson, W. P., Jr., and Skandalakis, J. E.: Control of postoperative pain. J.M.A. Georgia 46:471, 1957. 7. Piper, C. E., and Nicklas, F. W.: Percodan for pain in industrial practice. Indust. Med. 23:510, 1954 (abstracted: Clin. Med. 3:1008, 1956, Current M. Digest 22:135, No. 3, 1955.

Endo ENDO LABORATORIES
Richmond Hill 18, New York

*U. S. Pats. 2,628,185 and 2,907,768

MEDICAL TIMES **JOURNAL FOR THE FAMILY PHYSICIAN**

CONTRIBUTIONS *Exclusive Publication: Articles are accepted for publication with the understanding that they are contributed solely to this publication, are of practical value to the family physician and do not contain references to drugs, synthetic or otherwise, except under the following conditions: 1. The generic and not the trade name must be used, provided that no obscurity results and scientific purpose is not badly served. 2. In relation to therapeutic agents, the policy enumerated by the Council on Drugs of the American Medical Association will be followed by this journal. When possible, two copies of manuscript should be submitted. Drawings or photographs are especially desired and the publishers will have halftones or line cuts made without expense to the authors.*

Here are eight good reasons why you should write "Raudixin" in the treatment of high blood pressure:

1. Rigorous pharmacognostic examinations eliminate substandard Rauwolfia species and establish uniformity of the product.

2. The whole root, including all its active fractions, is used for maximal antihypertensive activity with minimal sedation.

3. Radioisotope dilution assay (important, but rarely done elsewhere) determines potency.

4. Biological assay measures the ability to counteract the pressor effect of standard doses of epinephrine in the dog.

5. Biological assay measures the ability to produce ptosis in the mouse in comparison with a reference standard.

6. Safety verified by toxicity tests.

7. Chemical assay establishes the active alkaloid content.

8. Every Raudixin tablet to reach your patient meets the high Squibb standards for effectiveness, potency and uniformity.

For full information, see your Squibb Product Reference or Product Brief.

Raudixin

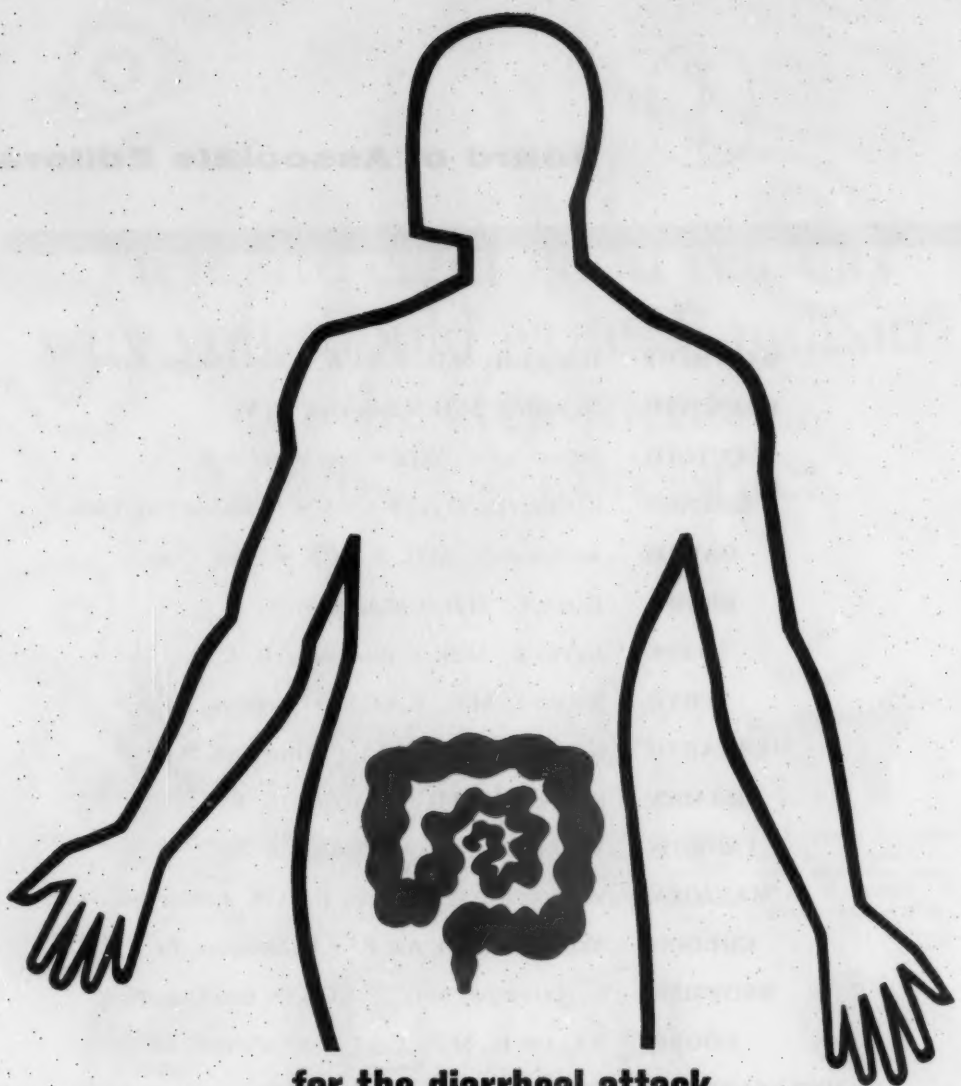
SQUIBB

Squibb Quality — the Priceless Ingredient

Squibb Standardized Whole Root Rauwolfia Serpentina

Supply: 50 mg. and 100 mg. tablets 'Raudixin'® is a Squibb trademark.

Board of Associate Editors



for the diarrheal attack

effective–eradicates enteric bacterial pathogens

selective–does not eradicate the normal intestinal flora[1]

FUROXONE® LIQUID

brand of furazolidone

New, convenient prescription size: bottle of 2 oz. Also: bottle of 16 oz.

■ Exceptionally broad bactericidal range includes species and strains now resistant to other antimicrobials ■ Virtually nontoxic ■ Does not encourage monilial or staphylococcal overgrowth ■ Has not induced significant bacterial resistance ■ Dosage may be found in your PDR.

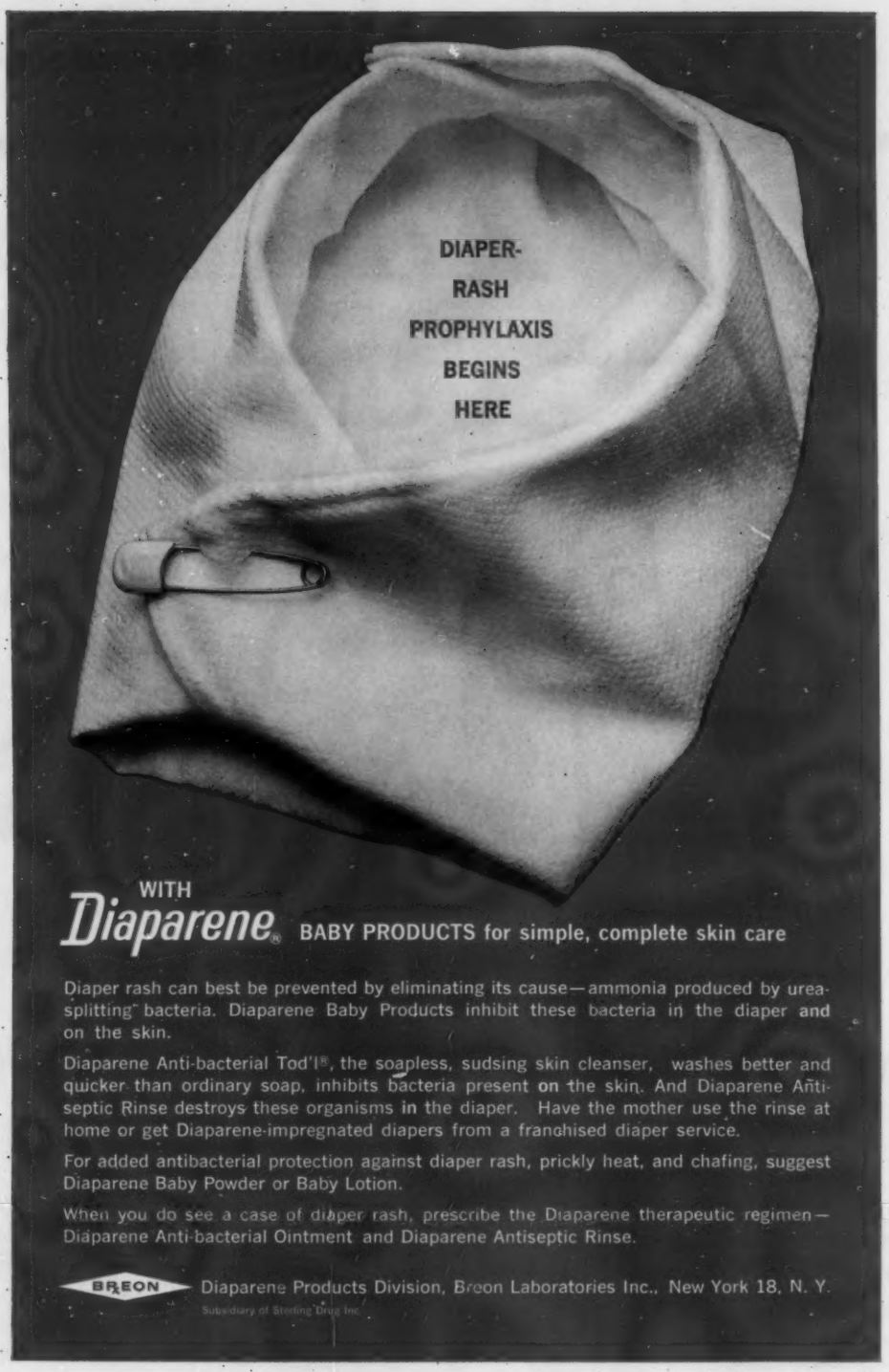
FUROXONE LIQUID is a pleasant orange-mint flavored suspension containing FUROXONE 50 mg. per 15 cc., with kaolin and pectin.

1. Mintz, A. A.: Antibiot. Med. 7:481, 1960.

EATON LABORATORIES, Division of The Norwich Pharmacal Company, NORWICH, NEW YORK

Therapeutic Reference

The following index contains all the products advertised in this issue. Each product has been listed under the heading describing its major function. By referring to the pages listed, the reader can obtain more information. All of the products listed are registered trademarks, except those with an asterisk (*).



WITH
Diaparene® BABY PRODUCTS for simple, complete skin care

Diaper rash can best be prevented by eliminating its cause—ammonia produced by urea-splitting bacteria. Diaparene Baby Products inhibit these bacteria in the diaper and on the skin.

Diaparene Anti-bacterial Tod'l®, the soapless, sudsing skin cleanser, washes better and quicker than ordinary soap, inhibits bacteria present on the skin. And Diaparene Antiseptic Rinse destroys these organisms in the diaper. Have the mother use the rinse at home or get Diaparene-impregnated diapers from a franchised diaper service.

For added antibacterial protection against diaper rash, prickly heat, and chafing, suggest Diaparene Baby Powder or Baby Lotion.

When you do see a case of diaper rash, prescribe the Diaparene therapeutic regimen—Diaparene Anti-bacterial Ointment and Diaparene Antiseptic Rinse.

BREON Diaparene Products Division, Breon Laboratories Inc., New York 18, N. Y.
Subsidiary of Sterling Drug Inc.

Therapeutic Reference

Continued

Choleretics and Hydrocholeretics

Cholan-HMB 133a
Decholin 8a
Decholin-BB 8a
Decholin with Belladonna 8a
Supligol Tablets 78a

Contraceptives

Emko Vaginal Foam 22a, 23a
Koromex Compact 54a
Ramses Prophylactics 113a

Cough Control

Benylin Expectorant 118a

Diabetes

DBI 76a, 77a
Diabinese 86a, 87a
Orinase 61a

Diarrheal Disorders

Entoquel Syrup 46a
Entoquel with Neomycin Syrup 46a
Furoxone Liquid 16a
Humatin 71a
Lomotil 82a

Digestants

Phazyme 39a

Enzyme Therapy

Avazyme 70a

Epilepsy

Mysoline 172a, 173a

Equipment and Supplies

Wilson Tru-Touch Gloves 85a

Eye, Ear, Nose and Throat Preparations

Furacin Otic 102a
NeoDecadron Ophthalmic 28a

G.U. Preparations and Antiseptics

Furadantin 129a
Pyridium 10a
Thiosulfil Forte 88a, 89a

Hematinics

Chel-Iron 119a
Ferronord 168a
Ferro-Sequels 157a
Mol-Iron Chronosules 135a

Hemorrhoids and Rectal Disorders

Anusol-Anusol-HC 137a

Infant Formulas and Milks

Carnalac 41a
Enfamil 131a
Polymul 20a

now . . .

add an essential maternal element lacking in infant formulas

new . . .

POLYMUL®

Infant
Nutrition
Supplement

". . . human milk fat contains more than three and one-half times as much of the so-called 'essential' fatty acids as cow's milk . . ."[1]

POLYMUL®, a unique combination of these polyunsaturated fatty acids protected by antioxidant tocopherols, added to cow's milk formulas restores the balance of unsaturated fatty acids to more nearly resemble mother's milk.

POLYMUL . . . improves the nutritional value of cow's milk formulas.

Each 1 cc. POLYMUL 'dispensulet' contains 950 mg. of unsaturated fatty acid glycerides providing:

Linoleic & Linolenic Acids	600 mg.
Tetra, Penta, & Hexaenoic Acids	100 mg.
Oleic & Saturated Acids	150 mg.
Mixed Tocopherols	5 mg.
Polysorbate 80	50 mg.

Dosage: 2 to 4 cc. per day. Average dose 3 cc. per day. Contents of 3 POLYMUL 'dispensulets' in formula after sterilization or one 'dispensulet' to 4 ounces of formula for three feedings.

Supply: Convenient, accurate 'dispensulets' (1 cc.) in dispensing carton of 100 — over one month's supply.

PHARMACEUTICAL INDUSTRIES, INC.
Erlton,
New Jersey

1. Williams, H. H.: Report to Council on Foods and Nutrition, J.A.M.A. 175: 104 (Jan. 14) 1961

Therapeutic Reference

Continued

Investments and Insurance

Standard & Poor's 125a

Laxatives and Anticonstipation Preparations

Dorbane 75a
Dorbantyl 75a
Dorbantyl Forte 75a
Dulcolax 177a

Muscle Relaxants

Parafon Forte 26a, 27a
Soma 55a

Parkinsonism

Artane 80a
Phenoxene 36a

Skin Disorders and Antibacterials

Cort-Dome ½% 181a
Desenex 103a
Diaparene 18a
Fostex 66a
pHisoAc, pHisoHex 48a
Sulpho-Lac 168a

Steroids and Hormones

Decadron Cover 4
Durabolin Cover 3
Enovid 127a
Panzalone 146a
Veriderm 153a

Tranquilizers

Librium Cover 2
Mellaril 144a, 145a
Meprospan-400 Opposite page 150a
Miltown Opposite page 151a; 151a
Trepidone 108a, 109a

Ulcer Management

Nactisol 111a
Pathibamate 94a, 95a

Vaginal Preparations

Trimagill 73a

Vertigo

Tigacol 24a

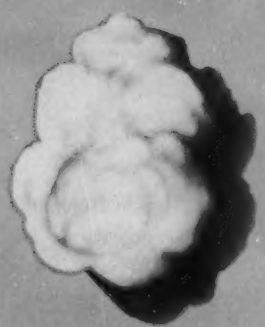
Vitamins and Nutrients

Eldec Kapseals 149a
Gerilets Opposite page 74a
Gevrestin 169a
Iberol Opposite page 75a
Thera-Combex Kapseals 32a
Theragran 64a, 65a

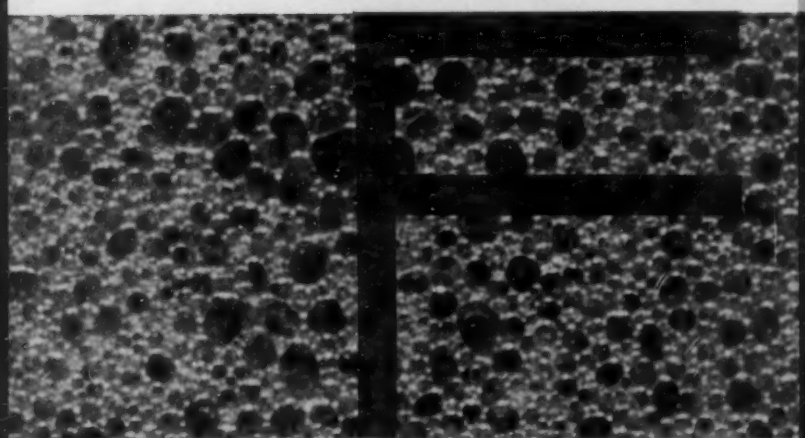
Weight Control

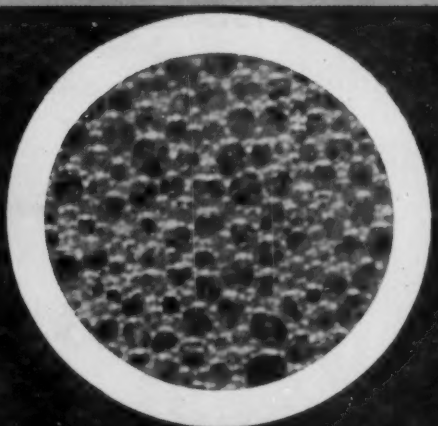
Bamadex Sequels 68a, 69a
Obedrin 44a, 45a
Obocell 62a
Phantos 52a

a close look at a principle never before applied to contraceptives



The photo below shows Emko Vaginal Foam enlarged about 40 times. This is the network of spermicidal bubbles that provides effective coverage and blocking action.





emko®

VAGINAL FOAM*

(1) A. J. SOBRERO, M. D.: EVALUATION OF A NEW CONTRACEPTIVE (EMKO). FERTILITY AND STERILITY, 11:5:518-524 (SEPT.-OCT.) 1960

A BLOCK OF FOAM... CREATED BY MILLIONS OF SPERMICIDAL BUBBLES

This lethal block of *EMKO VAGINAL FOAM* seals the cervical os and covers the entire vaginal tract. After use . . . it vanishes completely without douching.

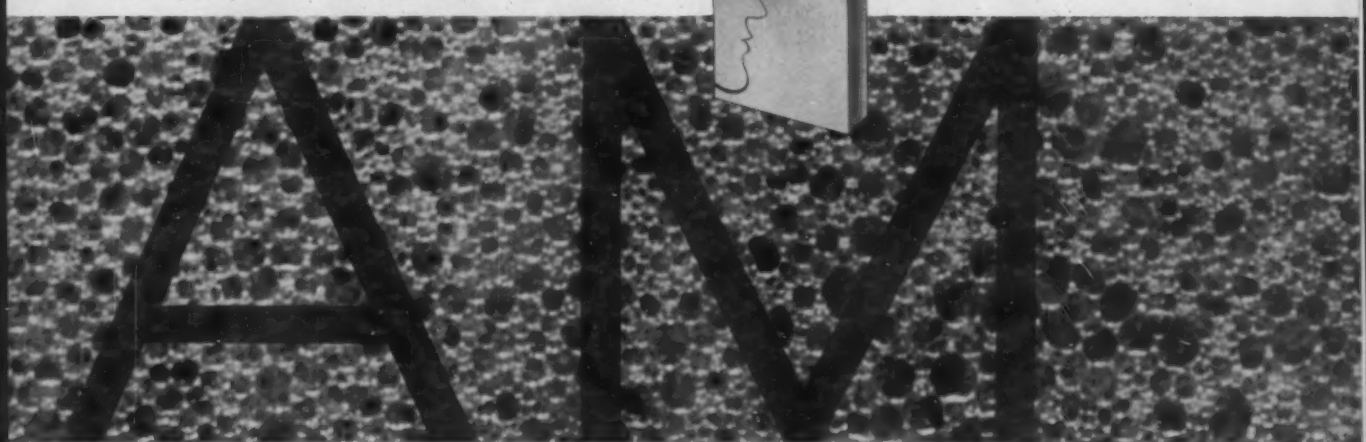
The total surface area of each EMKO bubble contains the widely used and thoroughly proven spermicide[1]... Nonyl phenoxy polyoxyethylene ethanol 8.0% and Benzethonium Chloride 0.2%.

As the sperm attempts to penetrate the foam, its erratic course exposes it constantly to the very large contact area created by the network of bubbles.

Only Emko Vaginal Foam can provide this maximum spermicidal exposure . . . with a minimum weight of material.

Each bottle of EMKO contains about 35 applications of Vaginal Foam. Suggested retail price $2.95 (with applicator and cosmetic travel kit). Available at drug stores.

THE EMKO COMPANY • 7912 MANCHESTER AVE. • ST. LOUIS 17, MO.



▶ no douching... it vanishes after use ▶ no greasiness or "after mess"

▶ no diaphragm... the foam does the blocking ▶ no irritation for husband or wife

*PAT. NO. 2,943,979 OTHER PATS. PEND.

NEW PRODUCT

End the Spin and Spell of "Dizziness"

vertigo • nausea • vomiting

impaired cerebral circulation

labyrinthine dysfunction

related conditions

• **TWO SPECIFIC ACTIONS** • **FEWER SIDE REACTIONS** New Tigacol facilitates the symptomatic control of vertigo. It relieves the varied symptoms of vertigo whether due to labyrinthitis, Meniere's syndrome, impaired cerebral circulation or of nonspecific origin. Tigacol offers you the clinically proven advantages of a well-tolerated peripheral vasodilator and a new specific antiemetic. **Roniacol** promptly relieves vertigo by directly relaxing the peripheral blood vessels without causing severe flushing or hypotension. **Tigan** controls nausea and vomiting by selective suppression of emetic impulses without drowsiness, tranquilization or adrenergic effects.

AVAILABLE: Pink capsules, each providing 50 mg Roniacol in the form of the tartrate and 100 mg Tigan HCl, bottles of 50. **USUAL ADULT DOSAGE:** One or two capsules three times daily. **NOTE:** Side effects were virtually absent except for a few instances of flushing and an occasional case of skin rash, which disappeared when medication was withdrawn. There are no known contraindications, but as with any new drug, patients should be observed periodically while on Tigacol therapy.

RONIACOL® — brand of nicotinyl alcohol • TIGAN® — 4-(2-dimethylaminoethoxy)-N-(3,4,5-trimethoxybenzoyl)benzylamine

ROCHE LABORATORIES • Division of Hoffmann-La Roche Inc • Nutley 10, New Jersey

TIGACOL

when the complaint is "dizziness"

Off the Record...

Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported sculptulite figurine . . . an amusing caricature of a physician . . . will be sent in appreciation for each accepted contribution.

Very Technical Term

My patient lay on the examining table, draped and ready for completion of her physical.

As I approached her she looked up nervously and exclaimed, "Now do be careful, Doctor—I have a tight spinster muscle."

E.L.S., M.D.
Twentynine Palms, Calif.

A Man with Foresight

An elderly gent came into my office with a variety of complaints. During the examination I observed, among other things, that his vision was not good.

"When did you last have your eyes checked?" I asked.

"Can't remember," he said.

"How long have you had those glasses you're wearing?"

The old fellow brightened. "Oh about two years. Ever since my brother died. They belonged to him."

E. G., M.D.
Chicago, Ill.

Positive Thinking

I overheard this bit of philosophy in my husband's waiting room. Said one woman to another: "If you can accept every loss with a smile, you're either a philosopher or on a diet."

Physician's Wife
St. Paul, Minn.

Too Close For Comfort

As a house officer, I was taking a history from a rather large colored woman. It was with great difficulty that I managed to keep a straight face when she told me: "Doc, I'm havin' a terrible lot of trouble with these very close veins."

C.D.D., Jr., M.D.
Boston, Mass.

And She's Right!

As a senior student on the obstetrical service, I had just finished examining a grand-multiparous woman in the labor room, having concluded the effort with a rectal exam.

She looked at me quizzically and said, "You ain't very smart, are you, Doctor?"

I admitted that I wasn't and asked her what had given me away. She said: "That there baby ain't going to come outa there!"

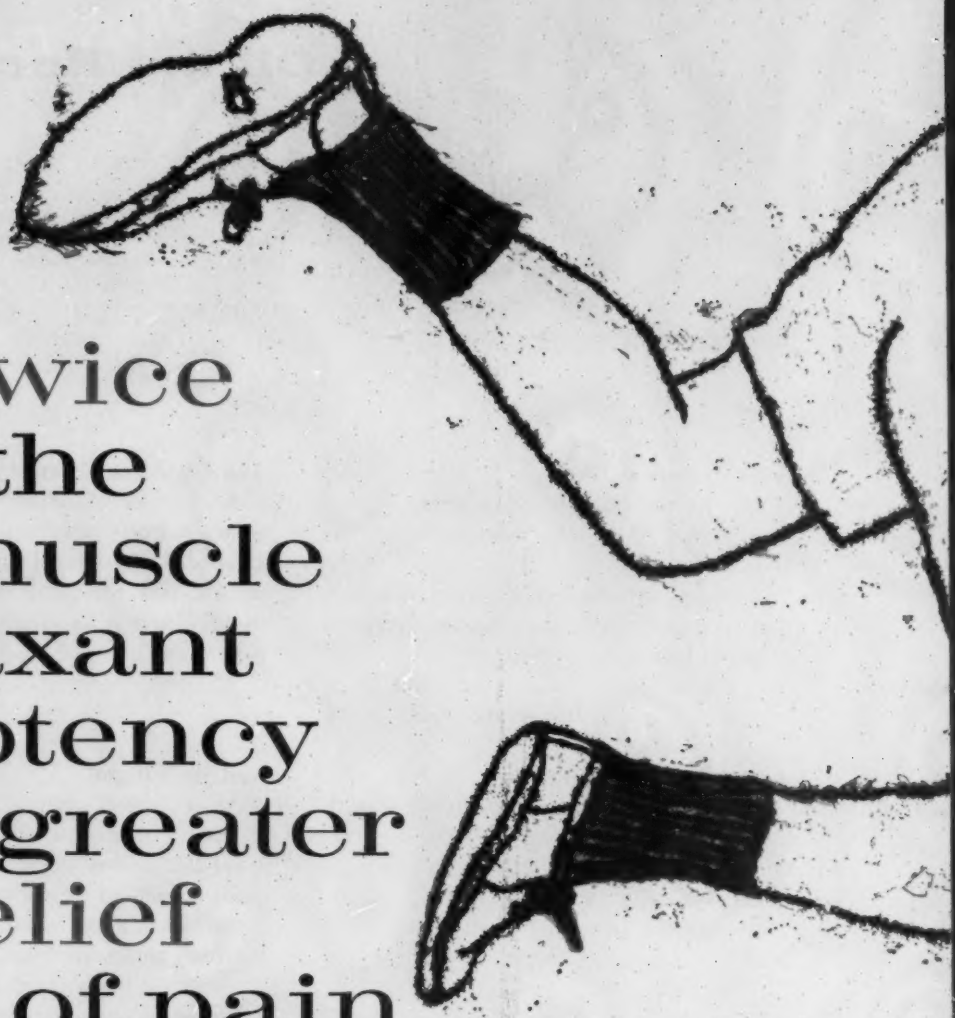
R.W.W., M.D.
Springfield, O.

Conservative Approach

Recently I saw a new patient, a man in his fifties who complained of tension and inability to sleep. When I took his history he admitted that he'd been a heavy drinker for years.

After examining him, I gave him a prescription for a tranquilizer and told him the drug would be of real help in cutting down his drinking.

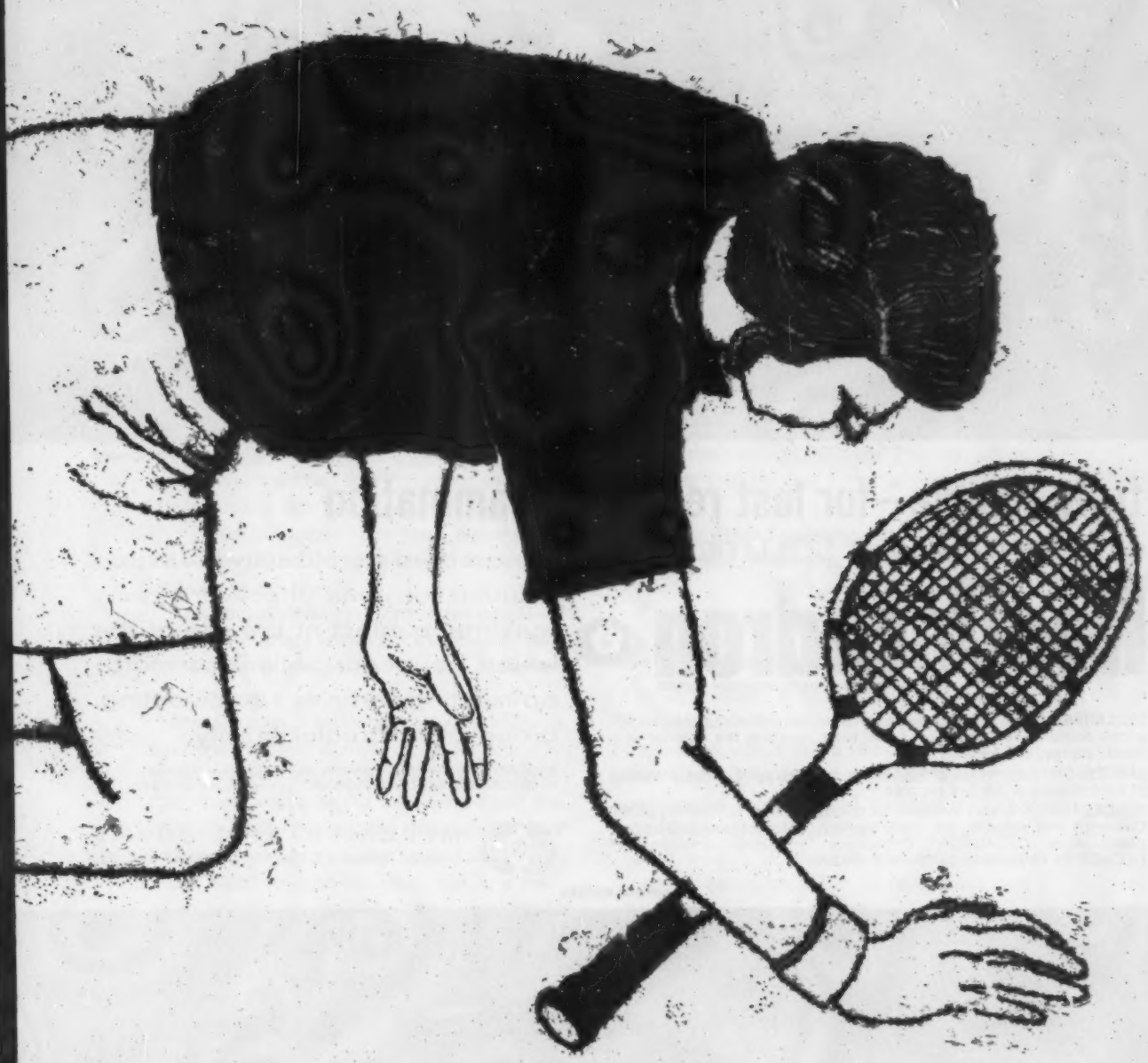
Concluded on page 29a



twice
the
muscle
relaxant
potency
for greater
relief
of pain
and spasm

NEW PARAFON®

Combining a superior skeletal muscle relaxant[1-3] with a preferred musculoskeletal analgesic,[4,5] *new* PARAFON FORTE rapidly relieves *both* stiffness and associated pain of strains or sprains resulting from trauma or too vigorous, unaccustomed exertion. PARAFON FORTE facilitates recovery by improving function. PARAFON FORTE is equally effective in other musculoskeletal disorders, such as myositis, whiplash injuries, low back pain, and fibrositis. Side effects are rare, almost never require discontinuation of therapy.



FORTE

PARAFLEX® Chlorzoxazone† 250 mg.
TYLENOL® Acetaminophen 300 mg.

Dosage: Two tablets q.i.d. *Supplied:* Scored, light green tablets, imprinted "McNEIL," in bottles of 50.

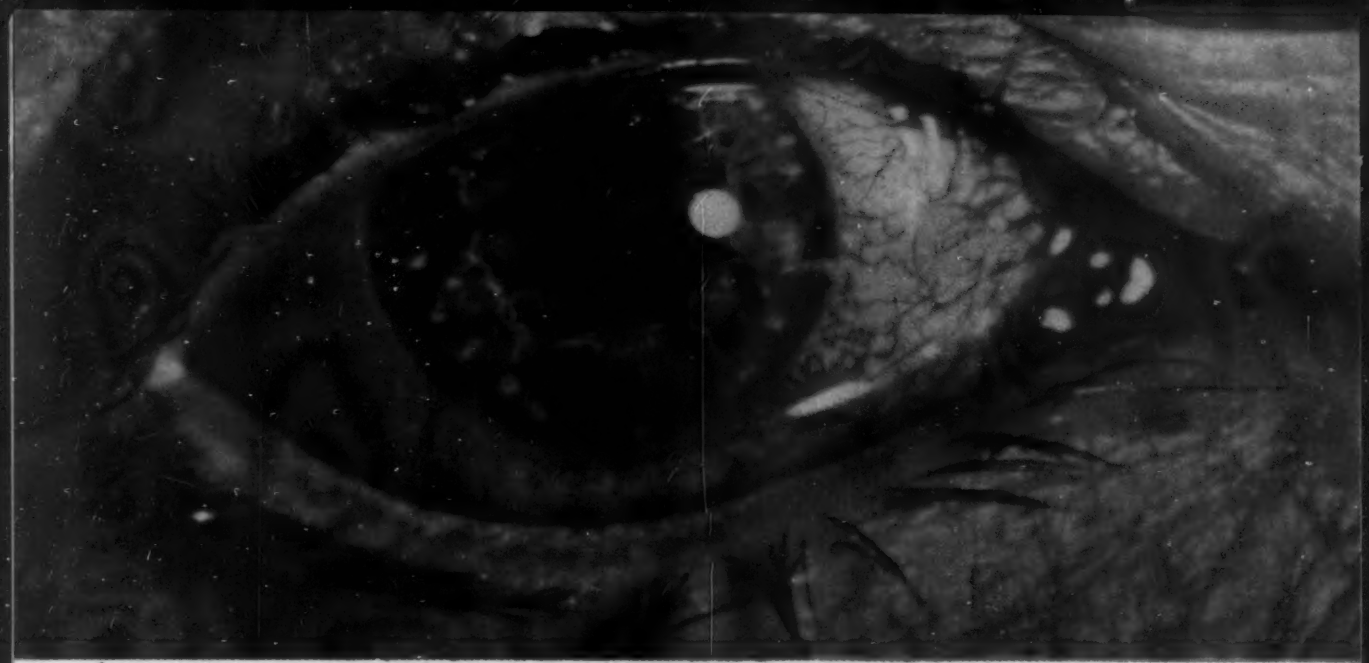
References: (1) Settel, E.: Clin. Med. *6*:1373, 1959. (2) Peak, W. P., and Smith, P. T.: Penn. Med. J. *63*:833, 1960. (3) Mayle, F. C.; Sullivan, P. D., and Auth, T. L.: Med. Ann. D. C. *28*:499, 1959. (4) Roth, J. L. A.: Med. Clin. N. Amer. *41*:1517, 1957. (5) Batterman, R. C., and Grossman, A. J.: J. A. M. A. *159*:1619 (Dec. 24) 1955.

†U.S. Patent No. 2,895,877

374A61

McNEIL LABORATORIES, INC., Fort Washington, Pa.

McNEIL



acute conjunctivitis before treatment

clinical photographs

truly soluble—for fast relief of inflammation

0.1% OPHTHALMIC SOLUTION

NeoDecadron®

DEXAMETHASONE 21-PHOSPHATE—NEOMYCIN SULFATE

INDICATIONS: Trauma—mechanical, chemical or thermal; inflammation of the conjunctiva, cornea, or uveal tract involving the anterior segment; allergy; blepharitis.

CAUTION: Steroid therapy should never be employed in the presence of tuberculosis or herpes simplex.

NeoDECADRON is also available as the ophthalmic ointment (.05%). Ointment and solution are available with dexamethasone 21-phosphate alone: DECADRON® Phosphate Ophthalmic Solution and DECADRON Phosphate Ophthalmic Ointment.

• unexcelled steroid activity • in true solution for peak effectiveness . . . maximal contact at the site of the lesion • superior patient comfort—no irritating particles • quick-acting, broad antimicrobial activity.

Additional information is available to physicians on request.
NeoDECADRON and DECADRON are trademarks of Merck & Co., INC.

MSD

MERCK SHARP & DOHME
Division of Merck & Co., INC., West Point, Pa.

4 days after treatment

Off the Record...

Concluded from page 25a

He looked at the prescription with doubt written all over his face.

"What's wrong?" I said.

"It's this drug," he said. "I don't want to get started on anything that's habit forming."

E.M., M.D.
Los Angeles, Calif.

Hair-Raising Tale

Mrs. Smith had been my patient for quite a few years. There was nothing remarkable about her except that she constantly changed the color of her hair. It seemed that every time she came into my office her hair was a different color. Her "crowning glory" had been put through the beauty parlor spectrum several times, from jet black to ash blonde.

This caused difficulties for me, because there were times when I would fail to recognize her. As she was an old patient, this was somewhat embarrassing.

She came in several months ago, and this time her hair was a really beautiful red. The shade was extremely becoming and exactly that of my wife's hair. I told her I liked this color and amiably suggested that she stick to it because it was most flattering to her.

She stood up, eyed me coldly and, in a voice vibrating with anger, said: "Drop dead!"

She strode out and I haven't seen her since.

A.E.B., M.D.
Brooklyn, N. Y.

Makes A Difference

The man had come in for a check-up because he "just did not feel very well" and was "tired all the time."

He was a new patient and so I took his history. In the midst of this I noticed that the index and second fingers of his right hand bore considerable tobacco stain.

"How many packs a day do you smoke?" I asked.

"One. Sometimes even less."

His answer surprised me. I naturally thought he was fibbing, as patients do. I pointed out his stained fingers and said, "I smoke a pack a day but you don't see any stain on my fingers."

He nodded and said, "Yeah, but you wash your hands every day."

N.L.B., M.D.
Chicago, Ill.

Very Patient Patient

While I was on vacation in Florida, a female patient of about age 70 came into the office. My nurse told her that I was in Florida for a rest.

The old woman promptly settled herself in a chair and said, "That's all right—I'll wait."

L.S., M.D.
Dorchester, Mass.

Too Much Bacon?

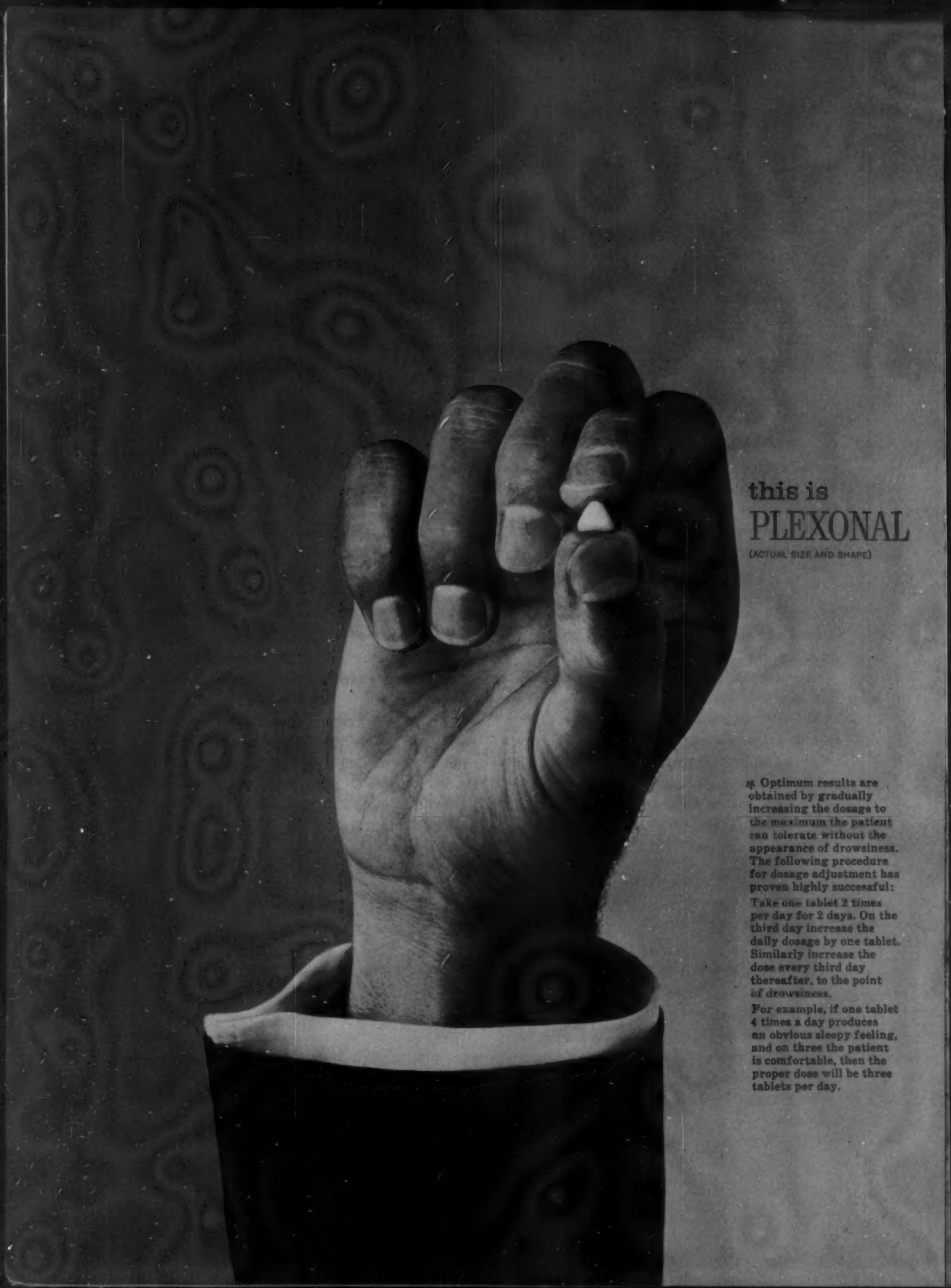
In my practice I treat many farm families. This patient, a farmer's wife, was a thin slip of a woman who'd had a baby every year for some time. I became concerned about her poor general condition and started a program to build her up and make her gain some badly needed weight. I prescribed a diet, vitamin pills and admonished her to take good care of herself.

Time passed. About a year later I met the woman in a supermarket. Such a great change had taken place that I barely recognized her. Where she had been only skin and bones before, she now was heavy, flabby and looked completely lethargic. I asked her what in the world she'd been eating.

"I'm ashamed to tell you," she said, averting my intent gaze. "But it's this way . . . Those pills you gave me just didn't help a bit. So my husband made me take the vitamin supplement he feeds the pigs. Boy, did that work!"

I had to agree with her.

W.G., M.D.
Atlantic, Iowa



* Optimum results are obtained by gradually increasing the dosage to the maximum the patient can tolerate without the appearance of drowsiness. The following procedure for dosage adjustment has proven highly successful:

Take one tablet 2 times per day for 2 days. On the third day increase the daily dosage by one tablet. Similarly increase the dose every third day thereafter, to the point of drowsiness.

For example, if one tablet 4 times a day produces an obvious sleepy feeling, and on three the patient is comfortable, then the proper dose will be three tablets per day.

a superior daytime relaxing agent

(NOT A TRANQUILIZER)

PLEXONAL®

Comparative clinical studies show that PLEXONAL is superior to meprobamate or barbiturates for daytime relaxation[1,2]

"Plexonal was preferred (superior therapeutic effect) by 73.7 per cent of the patients, whereas 11.1 per cent preferred meprobamate, a ratio of 6.6 to 1. . . . 30.5 per cent noted adverse reactions to meprobamate as compared to 7 per cent in respect to Plexonal. . . . Plexonal gave better results than did any of the sedative or relaxing agents that have been available during our experience covering the previous 15 years."[1]

In 26 older age cardiac patients, "A comparison of Plexonal with the therapy previously employed showed that 17 did better on Plexonal than on meprobamate, 6 did better on meprobamate than on Plexonal and 3 responded the same to both."[2]

Indications: Anxiety, tension, apprehension, nervousness, irritability, restlessness, hyperexcitability.

Extremely well tolerated by geriatric patients who need mild sedation, as well as by depressed patients.

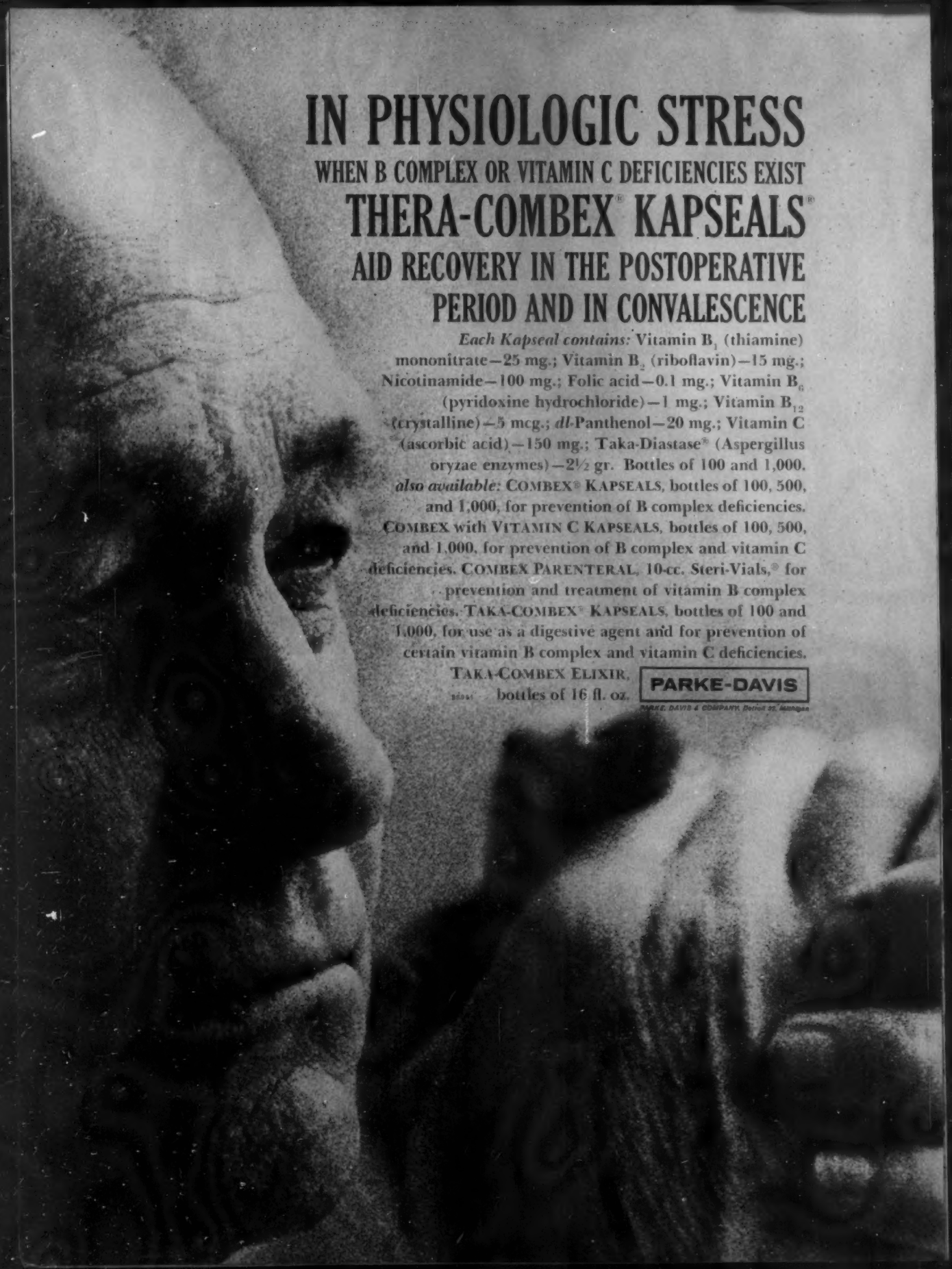
Dosage: One tablet 3 or 4 times a day is adequate for most patients. However, some require up to six tablets per day, whereas others respond adequately to as little as 1 tablet per day*

Composition: Each tablet contains sodium diethylbarbiturate 45 mg., sodium phenylethylbarbiturate 15 mg., sodium isobutylallylbarbiturate 25 mg., scopolamine hydrobromide 0.08 mg., dihydroergotamine methanesulfonate 0.16 mg.

1. Scheifley, C. H.: Proc. Staff Meet. Mayo Clin. 34:408 (Aug. 19) 1959.
2. Davanloo, H.: Am. J. of Psychiat. 117:740 (Feb.) 1961.

ORIGINAL RESEARCH SERVING THE PHYSICIAN

SANDOZ


IN PHYSIOLOGIC STRESS
WHEN B COMPLEX OR VITAMIN C DEFICIENCIES EXIST
THERA-COMBEX® KAPSEALS®
AID RECOVERY IN THE POSTOPERATIVE PERIOD AND IN CONVALESCENCE
Each Kapseal contains: Vitamin B_1 (thiamine) mononitrate—25 mg.; Vitamin B_2 (riboflavin)—15 mg.; Nicotinamide—100 mg.; Folic acid—0.1 mg.; Vitamin B_6 (pyridoxine hydrochloride)—1 mg.; Vitamin B_{12} (crystalline)—5 mcg.; *dl*-Panthenol—20 mg.; Vitamin C (ascorbic acid)—150 mg.; Taka-Diastase® (Aspergillus oryzae enzymes)—2½ gr. Bottles of 100 and 1,000.
also available: COMBEX® KAPSEALS, bottles of 100, 500, and 1,000, for prevention of B complex deficiencies. COMBEX with VITAMIN C KAPSEALS, bottles of 100, 500, and 1,000, for prevention of B complex and vitamin C deficiencies. COMBEX PARENTERAL, 10-cc. Steri-Vials,® for prevention and treatment of vitamin B complex deficiencies. TAKA-COMBEX® KAPSEALS, bottles of 100 and 1,000, for use as a digestive agent and for prevention of certain vitamin B complex and vitamin C deficiencies.
TAKA-COMBEX ELIXIR, bottles of 16 fl. oz.
PARKE-DAVIS
PARKE, DAVIS & COMPANY, Detroit 32, Michigan

Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology
New York University School of Medicine
and Director of Radiology, Bellevue Hospital Center

Fifty-eight-year-old male.

Chief Complaint:

Hematemesis and dark stool for three years.

What is your diagnosis?

1. Peptic esophagitis
2. Esophageal varices
3. Ca. lower end of esophagus
4. Curling of the esophagus

(Answer on page 178a)

Protects the angina patient better than vasodilators alone

Unless the coronary patient's ever-present anxiety about his condition can be controlled, it can easily induce an anginal attack or, in cases of myocardial infarction, can delay recovery.

This is why Miltrate gives better protection for the heart than vasodilators alone in coronary insufficiency, angina pectoris and postmyocardial infarction.

Miltrate contains PETN (pentaerythritol tetranitrate), acknowledged as basic therapy for long-acting vasodilation. . . .

What is more important—Miltrate provides Miltown, a tranquilizer which, unlike phenobarbital, relieves tension in the apprehensive angina patient without inducing daytime fogginess.

Thus, your patient's cardiac reserve is protected against his fear and concern about his condition; his operative arteries are dilated to enhance myocardial blood supply—and he can carry on normal activities more effectively since his mental acuity is unimpaired by barbiturates.

REFERENCES: 1. Ellis, L. B. *et al.*: Circulation *17*:945, May 1958. 2. Friedlander, H. S.: Am. J. Cardiol. *1*:395, Mar. 1958. 3. Riseman, J.E.F.: New England J. Med. *261*:1017, Nov. 12, 1959. 4. Russek, H. I. *et al.*: Circulation *12*:160, Aug. 1955. 5. Russek, H. I.: Am. J. Cardiol. *3*:547, April 1959. 6. Tortora, A. R.: Delaware M. J. *30*:290, Oct. 1958. 7. Waldman, S. and Peiner, L.: Am. Pract. & Digest Treat. *8*:1075, July 1957.

Supplied: Bottles of 50 tablets. Each tablet contains 200 mg. Miltown and 10 mg. pentaerythritol tetranitrate.

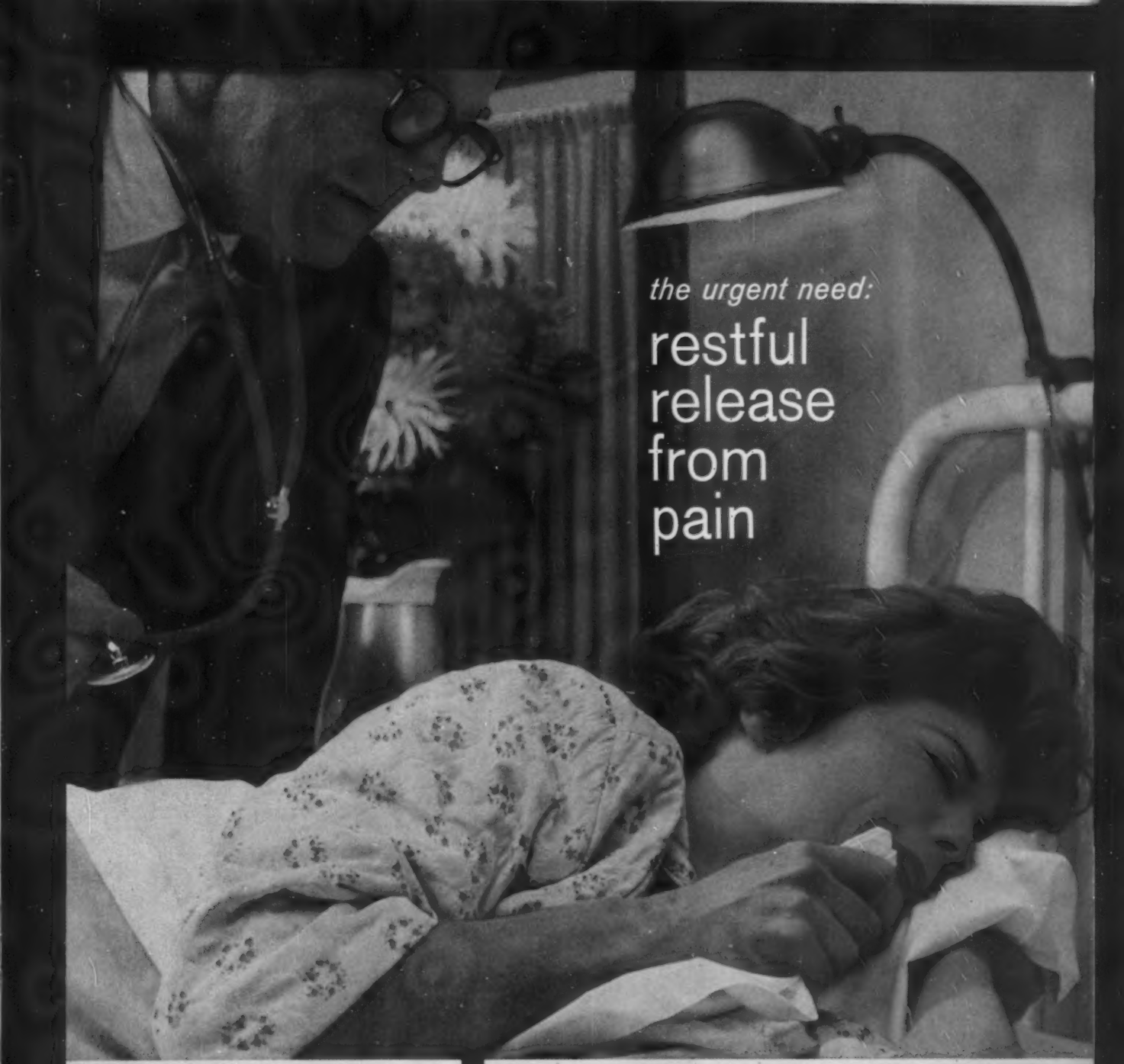
Dosage: 1 or 2 tablets q.i.d. *before meals* and at bedtime, according to individual requirements.

CWL-3419

Miltrate®

Miltown® (meprobamate) + PETN

WALLACE LABORATORIES / *Cranbury, N. J.*



AHR

PHENAPHEN
(Basic formula)

In each capsule: Phenacetin (3 gr.) 194.0 mg.; acetylsalicylic acid (2½ gr.) 162.0 mg.; hyoscyamine sulfate 0.031 mg.; and phenobarbital (¼ gr.) 16.2 mg.

AHR AHR

PHENAPHEN No. 2
PHENAPHEN with Codeine ..... ¼ gr.

AHR AHR

PHENAPHEN No. 3
PHENAPHEN with Codeine ..... ½ gr.

AHR

PHENAPHEN No. 4
PHENAPHEN with Codeine ..... 1 gr.

SUPPLY: Bottles of 100 and 500 capsules.

sedative-enhanced analgesia

To each "according to his need" — maximum safe analgesia through time-and-pain-tested synergistic formulations, in four strengths for individualized prescription.

PHENAPHEN®

Robins

PHENAPHEN® WITH CODEINE

¼ gr., ½ gr., 1 gr.

A. H. ROBINS CO., INC., Richmond 20, Virginia
Making today's medicines with integrity . . . seeking tomorrow's with persistence

relieves rigidity
and reduces muscle spasm
in the
parkinson patient

PHENOXENE™

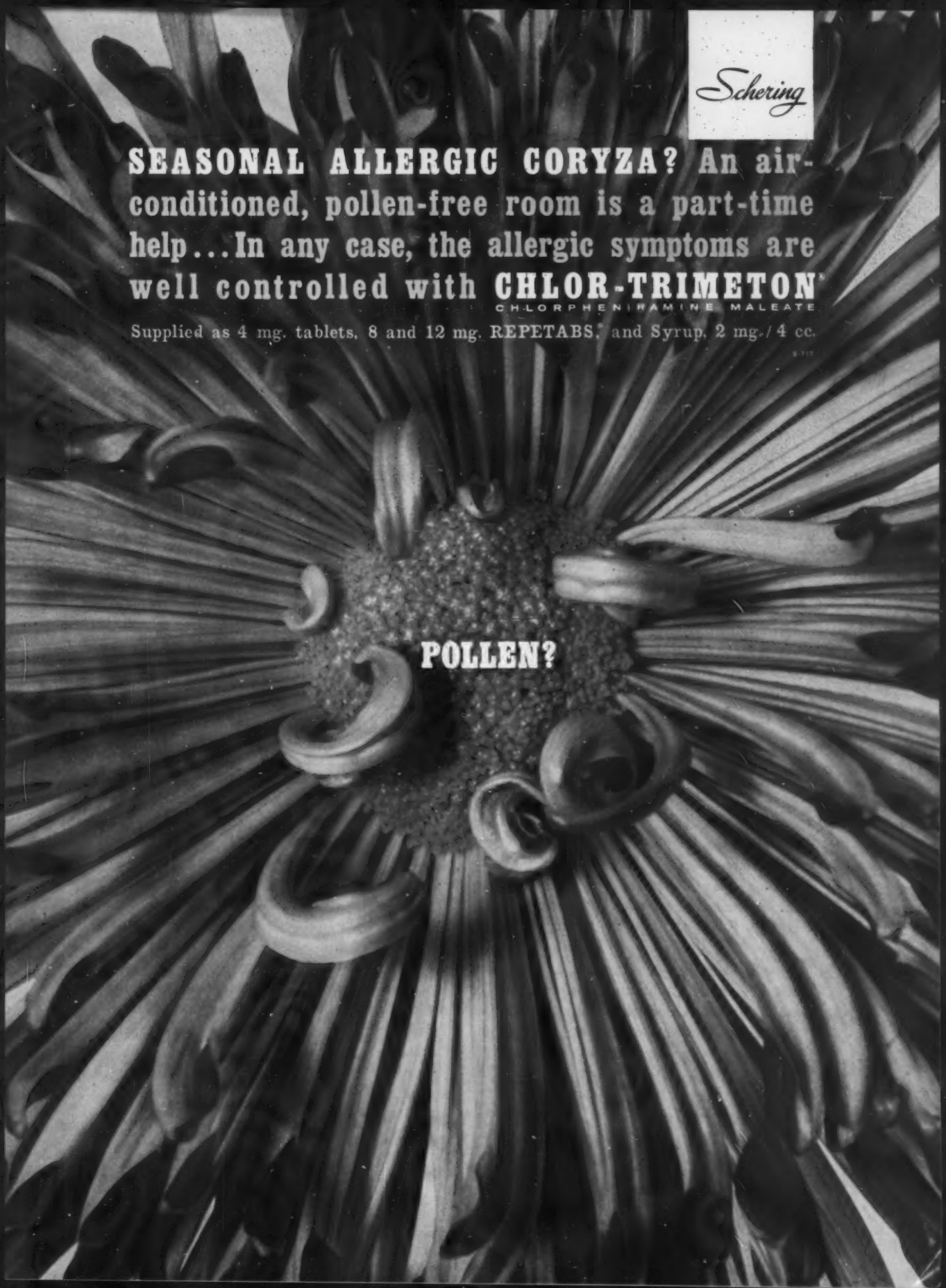
a new synthetic compound

"Chlorphenoxamine (Phenoxene) exerts a gentle yet potent action . . . a muscle relaxant action also an energizing and stimulating action, without induction of excitement or agitation. Patients are able to move faster and more freely and with greater strength and longer endurance. It helps to loosen rigid muscles, and it successfully counteracts akinesia, tiredness, and weakness."*

*Doshay, L. J., and Constable, K.: Treatment of Paralysis Agitans with Chlorphenoxamine Hydrochloride, J.A.M.A. *170*:37 (May 2) 1959.

A REPRINT OF THE COMPLETE ARTICLE AND CLINICAL TRIAL SUPPLIES ARE AVAILABLE ON REQUEST.

PM PITMAN-MOORE COMPANY
DIVISION OF THE DOW CHEMICAL COMPANY, INDIANAPOLIS 6, INDIANA


Schering
SEASONAL ALLERGIC CORYZA? An air-conditioned, pollen-free room is a part-time help...In any case, the allergic symptoms are well controlled with CHLOR-TRIMETON®
CHLORPHENIRAMINE MALEATE
Supplied as 4 mg. tablets, 8 and 12 mg. REPETABS,® and Syrup, 2 mg./4 cc.
POLLEN?

Coroner's Corner

A beautiful imported German apothecary jar will be sent to each contributor of an unusual case report.

It was on a dreary, overcast Sunday morning that I was called to a house in a poorer section of the city to see an elderly woman. Her daughter-in-law nervously informed me that when she entered her mother-in-law's room she found her lying in bed; she was dead. The woman had not been ill previously and the daughter-in-law was very upset that "mother" should have died so suddenly.

I entered the bedroom and found this normal appearing elderly woman lying supinely on her bed with her legs crossed and her right hand in repose upon her chest, directly over the heart. She appeared as if she had just lain down to take a nap and died in her sleep. As I began to remove her hand from the chest in order to check her heart, I noticed her hand was holding a needle. It was one of those large needles used for sewing heavy materials like carpeting. Only about half an inch of the needle extended from the chest wall, the rest being imbedded in the chest.

I notified the coroner's office and did not disturb the body further except to verify the state of death. I informed our medical examiner that I thought that this was a case of suicide in a most unusual manner. On learning the details of the case, he was inclined not to commit himself until the autopsy had been completed.

Here is what he reported: The death was accidental. When I raised my eyebrows at this, he went on to explain that he thought it was an unusual case of death by accident during the process of self-treatment through acupuncture. He told me that acupuncture was widely practiced in the Far East and also in the Middle East and eastern Europe.

The dead woman was a Hungarian immigrant who never had become assimilated into American life. The medical examiner stated that she probably suffered from angina pectoris and had punctured this area with the needle many times in the past.

I questioned him about this because I had not seen any other puncture marks on the skin of the chest wall. He said the postmortem examination revealed scarification of the pericardium, as if she had punctured the area on numerous occasions, and he felt that this was an accidental death because this time the needle point had lacerated the descending branch of the anterior coronary artery.

He explained that in the Far East acupuncture was widely practiced. It consists of the insertion of fine needles into an area of pain or disability. This is supposed to draw out pain in some manner. The practice is still widely used in Japan in association with hot baths followed by acupuncture of sore muscle areas.

In this particular case there was no insurance involved, but it was interesting to meditate on the possibility of double indemnity vs. suicide.

gassy?

New! For pain, distention and distress due to gastrointestinal gas!

Bloating, belching, borborygmus or flatulence—whatever the symptoms of gastrointestinal gas, Phazyme provides uniquely effective relief. Phazyme is the first comprehensive treatment for gastrointestinal gas that combines both digestive enzymes and gas-releasing agents—dual action that provides far better results than either agent alone. Digestive enzymes minimize gas formation resulting from digestive disorders or food intolerance. The gas-releasing agent, specially activated dimethyl polysiloxane, breaks down gas-enveloping membranes—prevents gas entrapment. A two-phase tablet, Phazyme releases these active components in the environments best suited to their actions—stomach or small intestine.

Phazyme is ideal medication for relieving gas distress in patients on the currently popular 900-calories-a-day diet. It is also recommended as routine therapy for cardiac patients to prevent gas from aggravating, complicating or simulating angina.

DOSAGE: One tablet with meals and upon retiring, or as required.
SUPPLIED: As two-phase release, pink tablets, in bottles of 50 and 100.

REED & CARNRICK / Kenilworth, New Jersey

NEW! When anxiety adds to the gas problem—
Phazyme with Phenobarbital

The PHAZYME formula with ¼ gr. phenobarbital. Supplied as two-phase release, yellow tablets, in bottles of 50. Phenobarbital may be habit forming.

minimizes gas formation
prevents gas entrapment

PHAZYME™

TABLETS

when occupational allergies strike

CONTINUOUS 10-12 HOUR ACTION

Dimetane Extentabs®

(parabromdylamine [brompheniramine] maleate)

reliably relieve the symptoms...seldom affect alertness

Farmers may develop allergies to pollens, plants, smuts and molds... housewives to dust and soap... florists to flowers and bulbs. Most types of allergies—occupational, seasonal or occasional reactions to foods and drugs—respond to Dimetane. With Dimetane most patients become symptom free *and* stay alert, and on the job, for Dimetane works...with a very low incidence[1-6] of significant side effects.

SUPPLIED: DIMETANE Extentabs®—12 mg. • DIMETANE Tablets—4 mg. • DIMETANE Elixir—2 mg./5 cc.

DOSAGE: *Extentabs:* Adults—One Extentab q. 8-12 h. or twice daily. Children over 6—one Extentab q. 12 h. *Tablets:* Adults—One or two tablets three or four times daily. Children over 6—one tablet t.i.d. or q.i.d. Children 3-6—½ tablet t.i.d. *Elixir:* Adults—2-4 teaspoonfuls t.i.d. Children over 6—2 teaspoonfuls t.i.d. or q.i.d. Children 3-6—1 teaspoonful t.i.d. Children under 3—0.5 cc. (0.2 mg.) per pound of body weight per 24 hours.

SIDE EFFECTS: Dimetane is usually well tolerated. Occasional mild drowsiness may be encountered. If desired, this may be offset by small doses of methamphetamine. Until known that the patient does not become drowsy, he should be cautioned against engaging in mechanical operations which require alertness. CONTRAINDICATIONS: Sensitivity to antihistamines. *Also available:* Dimetane-Ten Injectable (10 mg./cc.) or Dimetane-100 Injectable (100 mg./cc.).

REFERENCES: 1. Lineback, M.: The Eye, Ear, Nose and Throat Monthly *39*:342 (April) 1960. 2. Fuchs, A. M. and Maurer, M. L.: New York J. Med. *59*:3060 (August 15) 1959. 3. Kreindler, L. *et al.:* Antibiotic Med. and Clin. Therapy *6*:28 (January) 1959. 4. Schiller, I. W. and Lowell, F. C.: New England J. Med. *261*:478 (September 3) 1959. 5. Edmonds, J. T.: The Laryngoscope *69*:1213 (September) 1959. 6. Horstman, H. A.: Am Pract. & Digest Treat. *10*:96 (January) 1959.

MAKING TODAY'S MEDICINES WITH INTEGRITY ...SEEKING TOMORROW'S WITH PERSISTENCE

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA

PHARMACEUTICAL RESEARCH

stylish? stout?

UNDER YOUR SUPERVISION

Obedrin®

and the 60-10-70 menu plan can help patients bring weight down and as your judgment dictates... keep weight down!

This logical Obedrin formula helps bring weight down by helping control abnormal food cravings:

- Semoxydrine HCl (Methamphetamine) . . . 5 mg.—proved anorexigenic and mood-lifting effects
- Pentobarbital . . . 20 mg.—guards against excitation
- Ascorbic Acid . . . 100 mg.—aid for mobilization of tissue fluids
- Thiamine Mononitrate . . . 0.5 mg. } effective
- Riboflavin . . . 1 mg. } diet
- Nicotinic Acid (Niacin) . . . 5 mg. } supplementation

The 60-10-70 Menu Plan helps correct unhealthy eating habits without calorie counting—assures balanced food intake.

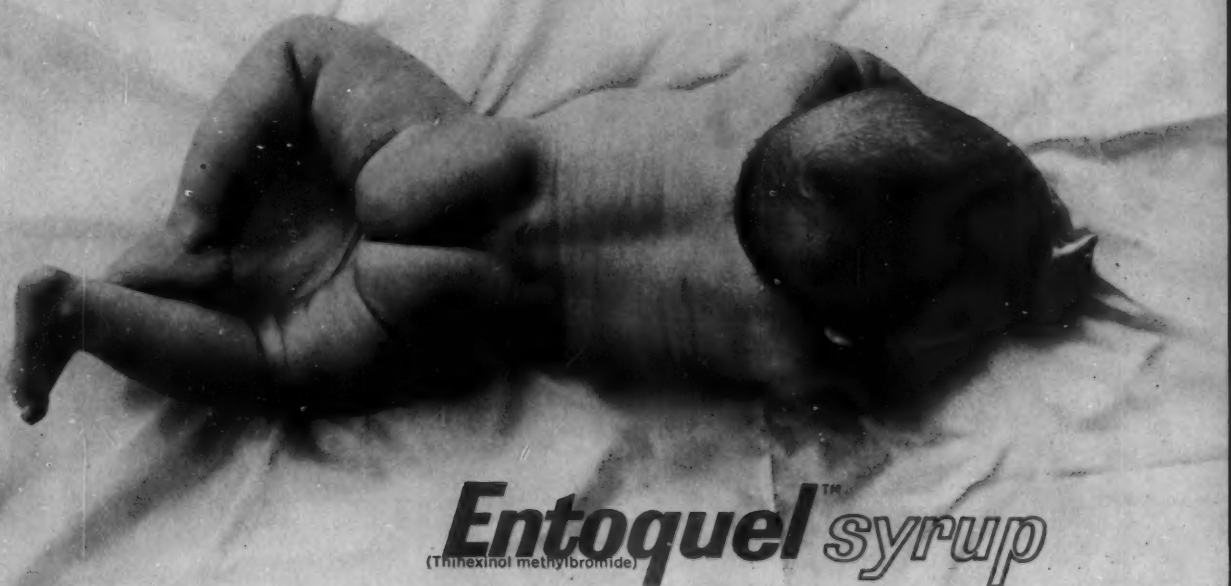
Supplied: Tablets and Capsules—bottles of 100, 500 and 1000.

WRITE FOR 60-10-70 MENU PLANS, WEIGHT CHARTS AND SAMPLES OF OBEDRIN.

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee • New York • Kansas City • San Francisco

are opiates now outmoded in pediatric diarrhea?



Entoquel™ syrup
(Thihexinol methylbromide)

the first pharmacologically-specific, non-narcotic antiperistaltic agent ■ controls diarrhea as rapidly and effectively as opiates ■ without the undesirable properties of opiates ■ pleasant butterscotch flavor

AND WHEN THE DIARRHEA IS BACTERIAL IN ORIGIN

Entoquel with Neomycin syrup

(Complete information regarding the use of Entoquel Syrup and Entoquel with Neomycin Syrup is available on request.)
Supplied: Entoquel Syrup – each 5 cc. contains 5 mg. thihexinol methylbromide, bottles of 6 oz. Entoquel with Neomycin Syrup – each 5 cc. contains 5 mg. thihexinol methylbromide and 50 mg. neomycin (from the sulfate), bottles of 6 oz. Available on Rx only.

White WHITE LABORATORIES, INC., Kenilworth, New Jersey

What's Your Verdict?

Edited by Ann Ledakowich, Member of the Bar of New Jersey

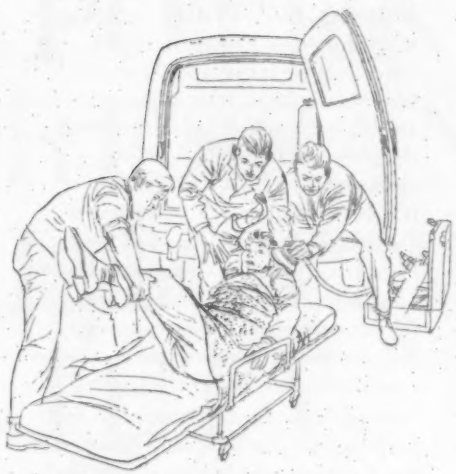
Late one evening a victim of an automobile accident was rushed into the emergency room of the hospital. He was semiconscious and there was alcohol on his breath.

An examination by the physician on call for emergencies revealed that the patient had suffered a head injury resulting from a rather severe blow. He was not in shock; he was actively engaged in pushing the doctor while being examined, and in swearing at him. There appeared to be no skull fracture or excessive intracranial pressure. A pressure bandage was applied to a wound on the head.

The physician concluded that there was no immediate danger, but that it was important to have the patient receive the prompt attention of a neurosurgeon. In his experience, it would take a minimum of two hours and sometimes as long as four hours to get a staff neurosurgeon. On the belief that a specialist would be more readily available at another hospital, the physician decided to have the patient transferred.

The patient was quiet and pale when placed in the ambulance, and appeared to be in a deep sleep as if under sedation. Approximately twenty minutes later, the ambulance reached the hospital and the patient was found to be dead on arrival. An autopsy showed the cause of death to be cerebral contusions leading to pulmonary edema.

In a trial against the physician it was charged that he was negligent in failing to determine whether a staff neurosurgeon might be available. He further made no attempt to learn whether a specialist could be had at the hospital to which the patient was sent. (No neurosurgeon was in fact available there.) Nor did he notify that hospital that a patient in need of prompt treatment was being sent to it.



The physician testified that his emergency treatment of the patient was quite adequate and met with the standards established by the emergency medical practice in the community. Four other doctors testified to the same effect. A neurosurgeon testified that, in his opinion, the patient would have died irrespective of the treatment given to him.

The jury returned a verdict for the physician, upon which judgment was entered.

On appeal, how would you decide?

Answer on page 178a.

After 10 weeks of therapy— a clear skin, a new personality, a new world of fun and laughter

pHisoHex, used as a daily, exclusive wash, enhances any treatment for acne. Because it contains 3 per cent hexachlorophene, it supplies *continuous* antibacterial action to help combat the infection factor. pHisoHex cleanses better than soap because it is 40 per cent more surface-active.

Used together, pHisoHex and new keratolytic pHisoAc Cream provide basic complementary topical therapy for patients with acne—to unplug follicles and to help prevent comedones, pustules and scarring.

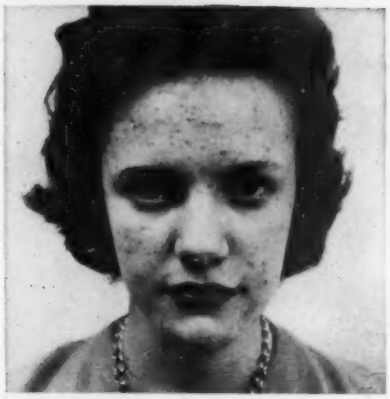
New pHisoAc Cream dries, peels and helps degerm the skin; flesh-toned, it tends to hide acne lesions as they heal.

pHisoHex, in unbreakable squeeze bottles of 5 oz. and NEW plastic bottles of 1 pint; pHisoAc in 1½ oz. tubes.

pHisoHex and pHisoAc, trademarks reg. U.S. Pat. Off.

Winthrop LABORATORIES
New York 18, N.Y.

CLINICAL PHOTOGRAPHS



Acne vulgaris before treatment

For treatment at home, this patient washed her face daily with pHisoHex and kept pHisoAc on her face twenty-four hours a day.

Nine office treatments consisted of mechanical removal of blackheads and applications of carbon dioxide slush. No other medication was given.

After 10 weeks of therapy

For Acne—pHisoHex® and

antibacterial, nonalkaline, nonirritating, hypoallergenic detergent

pHisoAc® Cream

keratolytic

ANNOUNCING... A POTENT ANTIDEPRESSANT WITH EFFECTIVE ANTI-ANXIETY PROPERTIES...

NEW

ELAVIL®

AMITRIPTYLINE HYDROCHLORIDE

MSD

new...a potent antidepressant with effective anti-anxiety properties

E L

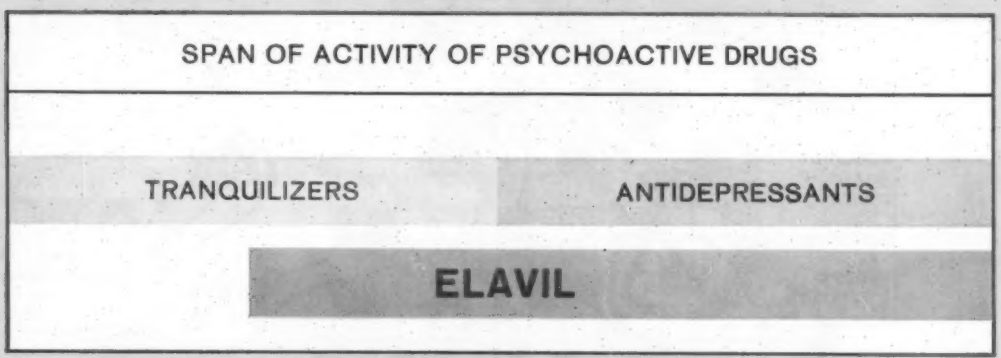
AMITRIPTYLINE HYDROCHLORIDE

RELATIVE UTILITY IN MANAGEMENT OF DEPRESSED PATIENTS

Class of compounds	TARGET SYMPTOMS OF DEPRESSION: *Anxiety*	*Insomnia*	*Depression*	*Over-all relief of symptoms*
TRANQUILIZERS	"Failure of the tranquilizers to produce satisfactory results is due in many cases to their being prescribed for depression, especially depression masked by the more prominent symptoms of anxiety. The underlying depression may be deepened."[1]			+ −
ANTIDEPRESSANTS			"CNS stimulants and anti-depressants, if given to anxious patients, will increase the anxiety...."[1]	+
ELAVIL	"...this drug [ELAVIL] acted both as a tranquilizer and as an anti-depressant...."[2] Many physicians customarily treat anxious or depressed patients with a combination of an antidepressant and a tranquilizer. This is seldom necessary when prescribing ELAVIL because it has both antidepressant and anti-anxiety properties.			+ +

AVIL®

effective in patients with depression...
particularly useful in those with predominant symptoms of anxiety and tension...provides prompt relief of anxiety and insomnia associated with depression



INDICATIONS: manic-depressive reaction – depressed phase; involutional melancholia; reactive depression; schizo-affective depressions; neurotic depressive reaction; and these target symptoms: anxiety; depressed mood; insomnia; psychomotor retardation; functional somatic complaints; loss of interest; feelings of guilt; anorexia. May be used whether the emotional difficulty is a manifestation of neurosis or psychosis,[4] and in ambulatory or hospitalized patients.[3, 4, 5]

USUAL ADULT ORAL DOSAGE: Initial, 25 mg. three times a day, until a satisfactory response is noted. Many patients improve rapidly, although some depressed patients may require four to six weeks of therapy before obtaining maximum benefit. In severely depressed patients, as much as 150 mg. per day may be given. **Maintenance,** 25 mg. two to four times a day. Some patients may be maintained on 10 mg. four times a day. The natural course of depression is often many months in duration. Accordingly, it is appropriate to continue maintenance therapy for at least three months after the patient has achieved satisfactory improvement in order to lessen the possibility of relapse, which may occur if the patient's depressive cycle is not complete. In the event of relapse, therapy with ELAVIL may be reinstituted.

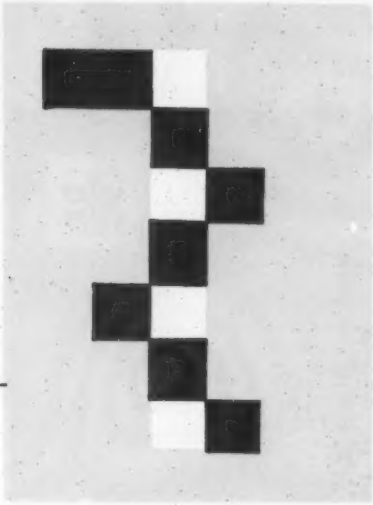
ELAVIL is not a monoamine oxidase (MAO) inhibitor. No evidence of drug-induced jaundice or agranulocytosis has been noted. Side effects (drowsiness, dizziness, nausea, excitement, hypotension, fine tremor, jitteriness, headache, heartburn, anorexia, increased perspiration, and skin rash), when they occur, are usually mild. However, as with all new therapeutic agents, careful observation of patients is recommended. As with other drugs possessing significant anticholinergic activity, ELAVIL is contraindicated in patients with glaucoma.

SUPPLY: Tablets, 10 mg. and 25 mg., in bottles of 100. **Injection** (intramuscular), 10 mg. per cc., 10-cc. vials.

REFERENCES: 1. Perloff, M. M., and Levick, L. J.: Clinical Med. 7:2237, Nov. 1960. 2. Freed, H.: Am. J. Psychiat. 117:455, Nov. 1960. 3. Dorfman, W.: Psychosomatics 1:153, May-June 1960. 4. Ayd, F. J., Jr.: Psychosomatics 1:320, Nov.-Dec. 1960. 5. Barsa, J. A., and Saunders, J. C.: Am. J. Psychiat. 117:739, Feb. 1961.

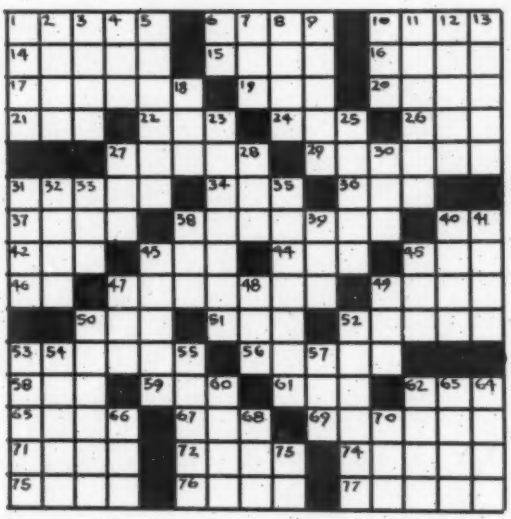
Before prescribing or administering ELAVIL, the physician should consult the detailed information on use accompanying the package or available on request.

MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., WEST POINT, PA.



Medical Teasers

A challenging crossword puzzle for the physician
(Solution on page 170a)



ALAN A. BROWN

ACROSS

1. Celebrated Greek physician
6. Front of the head
10. Tissue partly cut by knife
14. Not chronic
15. Ardor
16. Particle
17. Inborn
19. Indefinite period
20. Slant
21. Beverage
22. Three (prefix)
24. Cupric oxide (symbol)
26. Macerate (abbr.)
27. A chill
29. Mischievous
31. German anatomist and pathologist, 1809-85
34. Delve
36. Radio network
37. Emulsion (abbr.)
38. Suffering from locomotor ataxia
40. Bone
42. Mingle
43. Rested
44. Neon, argon (symbols)
45. Exclamation
46. The ear (prefix)
47. Hindered
49. Delineate
50. Unit
51. To cause to sit
52. Rhythmical dilatation of an artery
53. Temper by heat
56. Focus of a morbid process
58. Wreath
59. Line of light
61. Excavated anatomical structure
62. Obtained
65. Revolve
67. Feline
69. Muscle of the upper arm
71. Parched
72. Germinate
74. Lips
75. Sway to and fro
76. A measure
77. A lance

DOWN

1. Manner of walking
2. A papular eruption of the sebaceous glands
3. The moon goddess
4. Greek letter
5. Urtica
6. Iron (symbol)
7. Beverage
8. Cathodal opening contraction (abbr.)
9. Tedium
10. Convulsion
11. Pertaining to the plague
12. First cervical vertebra
13. Small area differing in color from surrounding surface
18. Unit of work
23. Salts of iodic acid
25. All (Lat.)
27. Every
28. Costa
30. Lead, carbon (symbols)
31. The blood (prefix)
32. Send forth
33. ——— vomica
35. Pertaining to procreation
38. Withdraw fluid from a cavity
39. Spread for drying
40. Units of electrical resistance
41. Having a sound mind
43. Spread on a slide
45. Have pain
47. Suffix indicating an alkaloid
48. A study
49. Lutecium, sulfur (Symb.)
50. Pertaining to dreams
52. Aperture of the eye (pl.)
53. Place of religious worship
54. Nerve (comb. form)
55. Milk (comb. form)
57. Poor golfer
60. Involuntary opening of the mouth
62. Germanium, beryllium (symbols)
63. Relating to the eye (suffix)
64. Emperor
66. Neodymium, potassium (symbols)
68. Habitual spasmodic movement
70. To be taken (L., abbr.)
73. The imide group (symbol)

Put your low-back patient back on the payroll

Soma relieves stiffness –stops pain, too

YOUR CONCERN: Rapid relief from pain for your patient. Get him back to his normal activity, fast!

HOW SOMA HELPS: Soma provides direct pain relief while it relaxes muscle spasm.

YOUR RESULTS: With pain relieved, stiffness gone, your patient is soon restored to full activity—often in days instead of weeks.

Kestler reports in controlled study: *Average time for restoring patients to full activity: with Soma, 11.5 days; without Soma, 41 days. (J.A.M.A. Vol. 172, No. 18, April 30, 1960.)*

Soma is notably safe. Side effects are rare. Drowsiness may occur, but usually only in higher dosages. Soma is available in 350 mg. tablets. **USUAL DOSAGE:** 1 **TABLET Q.I.D.**

The muscle relaxant with an independent pain-relieving action

SOMA®

(carisoprodol, Wallace)

®Wallace Laboratories, Cranbury, New Jersey

Dept. S-9, Professional Services Dept.
Wallace Laboratories, Cranbury, N. J.

Gentlemen: *Please send me a physician's sample of Soma.*

Dr._____

Street_____

City_____ Zone___ State_____

Type of practice_____

effective
treatment
for surgical
infections

CHLOROMYCETIN®

(chloramphenicol, Parke-Davis)

Wound infection—a common postoperative complication—can very often be traced to staphylococcal invasion.[1-3] In such cases, CHLOROMYCETIN may well be an agent of choice, since "...the very great majority of the so-called resistant staphylococci are susceptible to its action."[4]

Contributing significantly to this preference is the fact that staphylococcal resistance to CHLOROMYCETIN remains surprisingly infrequent, despite widespread use of the drug.[5,6] For example, even though consumption of CHLOROMYCETIN at one hospital increased markedly since 1955, there was little change in the susceptibility of staphylococci to the drug.[6]

Characteristically broad in its range of antibacterial action, CHLOROMYCETIN has also proved valuable in surgical infections caused by other pathogens—both gram-positive *and* gram-negative.[7-8]

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapseals® of 250 mg., in bottles of 16 and 100.

See package insert for details of administration and dosage.

Warning: Serious and even fatal blood dyscrasias (aplastic anemia, hypoplastic anemia, thrombocytopenia, granulocytopenia) are known to occur after the administration of chloramphenicol. Blood dyscrasias have occurred after both short-term and prolonged therapy with this drug. Bearing in mind the possibility that such reactions may occur, chloramphenicol should be used only for serious infections caused by organisms which are susceptible to its antibacterial effects. Chloramphenicol should not be used when other less potentially dangerous agents will be effective, or in the treatment of trivial infections such as colds, influenza, or viral infections of the throat, or as a prophylactic agent.

Precautions: It is essential that adequate blood studies be made during treatment with the drug. While blood studies may detect early peripheral blood changes, such as leukopenia or granulocytopenia, before they become irreversible, such studies cannot be relied upon to detect bone marrow depression prior to development of aplastic anemia.

References: (1) Pulaski, E. J., & Taylor, L. W.: *California Med.* **92**:35, 1960. (2) Finland, M.: DM: Disease-a-Month, Sept., 1960, p. 3. (3) Monsour, V.; Bernard, H. R., & Cole, W. R.: *Missouri Med.* **57**:1006, 1960. (4) Welch, H., in Welch, H., & Finland, M.: Antibiotic Therapy for Staphylococcal Diseases, New York, Medical Encyclopedia, Inc., 1959, p. 14. (5) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* **173**:475, 1960. (6) Petersdorf, R. G., *et al.*: *Arch. Int. Med.* **105**:398, 1960. (7) Goodier, T. E. W., & Parry, W. R.: *Lancet* **1**:356, 1959. (8) Lind, H. E.: *Am. J. Proctol.* **11**:392, 1960.

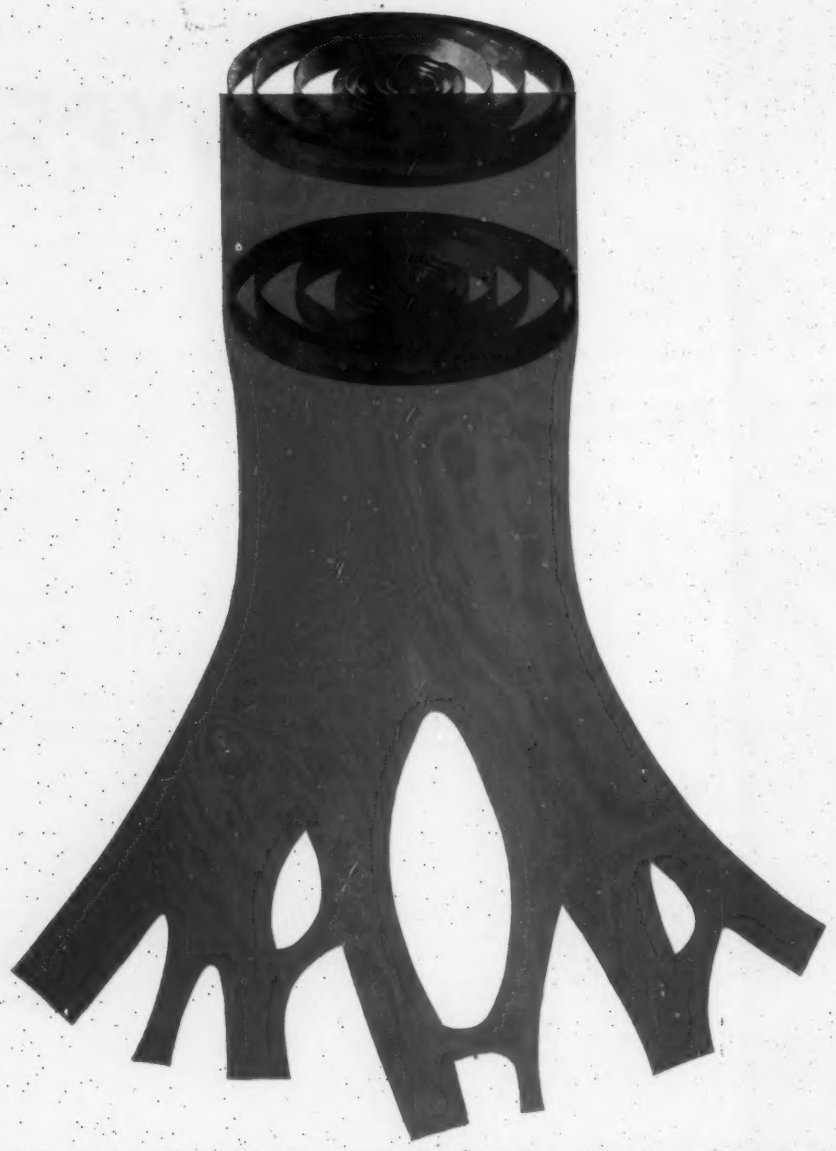
PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

59161

Hygroton®
brand of chlorthalidone

in hypertension and edema, longer in action smoother in effect



Longer action[1] provides smooth, evenly-sustained therapeutic effect.[2] ■ Potent antihypertensive properties facilitate effective treatment of hypertension, frequently without auxiliary agents.[3] ■ Safeguards against significant potassium loss.[4] ■ Intensity of saluretic action enables liberalization of dietary salt restriction.[3] ■ Simplified dosage schedule affords economy of maintenance on just 3 doses per week.[2]

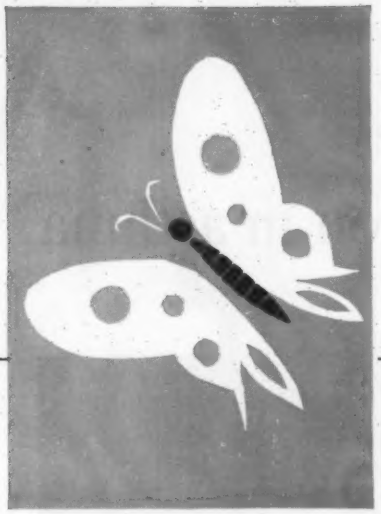
References: 1. Ford, R. V.: Current Therap. Research 2:347, 1960. 2. Fuchs, M., and others: Current Therap. Research 2:11, 1960. 3. Ford, R. V.: Connecticut Med. 24:704-707, (Nov.) 1960. 4. Ford, R. V.: Texas State J. Med. 56:343, 1960.

Detailed literature available on request.

Hygroton®, brand of chlorthalidone, is available as white, single-scored tablets of 100 mg.

Geigy Pharmaceuticals, Division of Geigy Chemical Corporation, Ardsley, New York HY573-63

Geigy



AFTER HOURS

No man is really happy or safe without a hobby, and it makes precious little difference what the outside interest may be—botany, beetles or butterflies, roses, tulips or irises; fishing, mountaineering or antiquities—anything will do so long as he straddles a hobby and rides it hard.—Sir William Osler

For the past seven years Dr. Ronald W. Barr of Montevideo, Minnesota, has worked with a local Boy Scout troop and served as a member of the organization's district committee. At present he is vice-chairman of the district.

Dr. Barr teaches the Boy Scouts first aid and finds this to be an excellent form of relaxation for him.

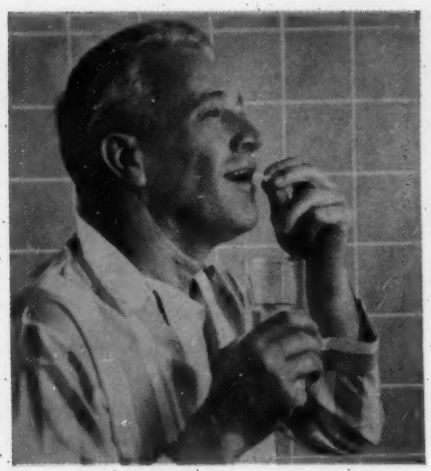
Says the doctor: "Occasional release of tension is necessary in any busy M.D.'s life. Often a simple change of activity sphere is all that is necessary.

"Such a program is the Scouting movement where M.D.s can be of definite service in providing these citizens of tomorrow with accurate and useful information on first aid and other subjects related to medicine. The medical profession is best qualified to meet this need.

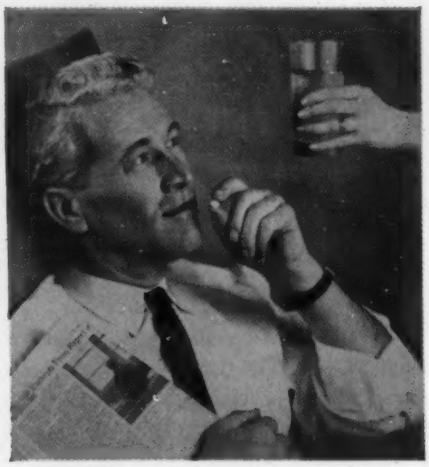
"Certainly, the small investment of time and effort yields tremendous returns in helping the Boy Scouts to 'Be Prepared.'"

Dr. Barr leads a first-aid session held by Troop 259 of Montevideo, Minnesota.

all it takes
for sustained protection in asthma



One tablet on arising protects through the working day, virtually eliminates the need for emergency daytime medication.



One tablet 12 hours later lets the patient sleep, reduces the need for middle-of-the-night emergency medication.

New Tedral® SA

Sustained-Action antiasthmatic

■ protects against bronchial constriction ■ reduces mucous congestion ■ increases vital capacity and ability to exhale ■ reduces frequency and severity of asthmatic attacks ■ convenient b.i.d. dosage

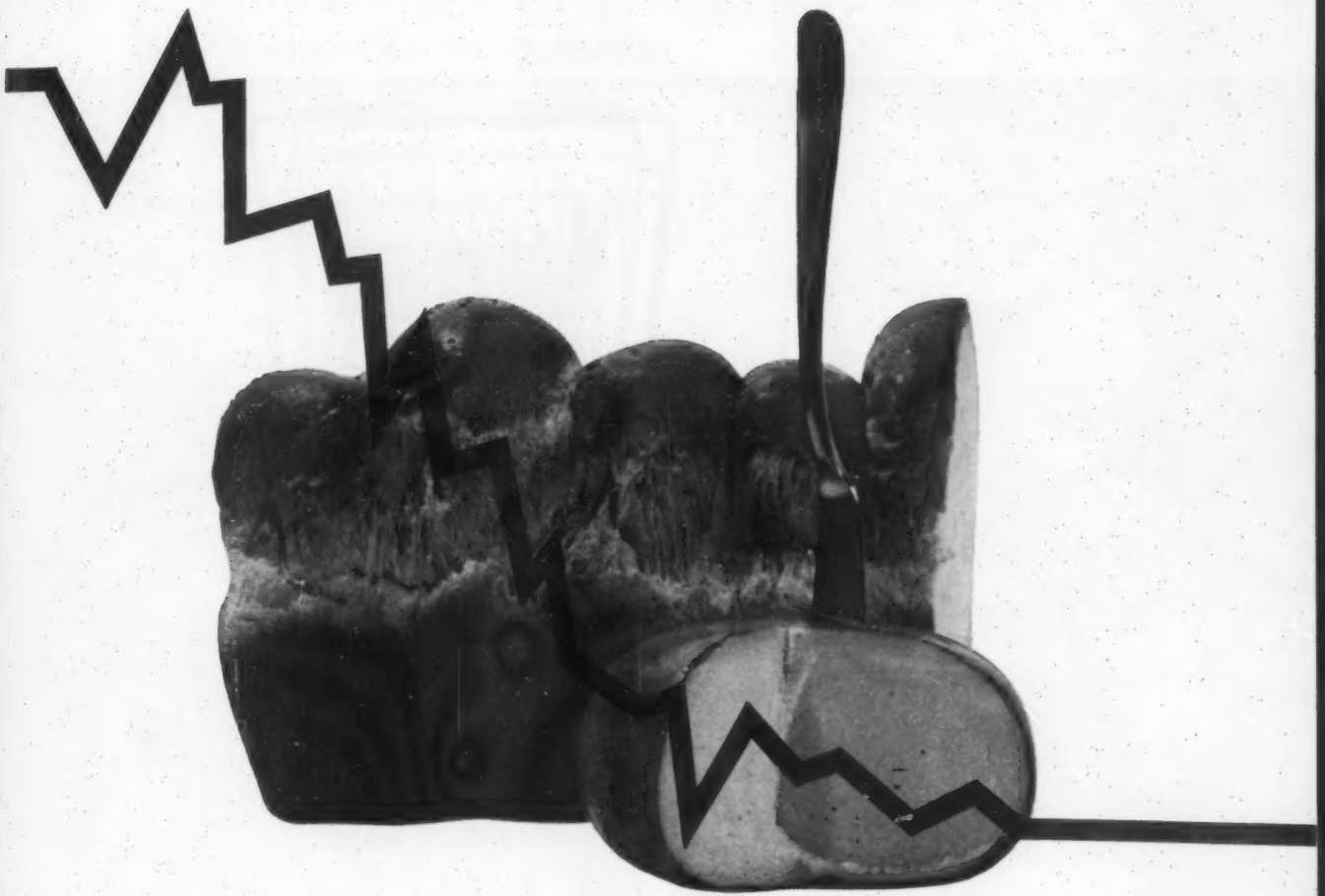
Each tablet contains 180 mg. theophylline, 48 mg. ephedrine HCl, and 25 mg. phenobarbital.

WARNER CHILCOTT

MORRIS PLAINS, N.J.

GP15

makers of TEDRAL GELUSIL PROLOID PERITRATE MANDELAMINE



Adding Orinase may improve control significantly in diabetics now imperfectly managed on diet alone.[1-4]

Orinase releases native insulin via physiologic channels, giving the patient direct metabolic support. And Orinase dosage is flexible and readily individualized.

To improve control in many diabetics on dietotherapy — add Orinase. It can make a gratifying clinical difference.

Indications: Orinase is indicated as the therapeutic agent of choice in the majority of selected cases of adult of maturity-onset type of diabetes mellitus. In certain patients with labile diabetes, the use of Orinase as a supplement to insulin therapy may effect stabilization of the diabetic condition and lower insulin requirement.

Dosage:

Patients not receiving insulin — There is no fixed regimen for initiating Orinase therapy, but a suggested method is:

First day — 6 Orinase tablets (3.0 Gm.). **Second day** — 4 Orinase tablets (2.0 Gm.). **Third day** — 2 Orinase tablets (1.0 Gm.). **Fourth and subsequent days** — 2 Orinase tablets (1.0 Gm.) with increase or decrease as necessary to control glycosuria.

There is no fixed maintenance dose of Orinase; therapy may be individualized according to patient response. Adjust the maintenance dose (usually 1 to 4 tablets) to the smallest dose consistent with good control. The daily maintenance dose may be given once daily or in divided doses.

Patients receiving insulin (less than 20 units) — discontinue insulin and institute Orinase; (20 to 40 units) — initiate Orinase with a concurrent 30 to 50% reduction in insulin dose with a further careful reduction as response to Orinase is observed; (more than 40 units) — reduce insulin by 20% and initiate Orinase with a further careful reduction in insulin dosage as response to Orinase is observed.

Cautions: Observe all standard diabetes precautions: dietary restriction, weight control, exercise, hygiene, avoidance of infection, and adherence to dosage. As with exogenous insulin, changes in dosage may be necessary during the course of management. In the event of stress conditions, trauma or infection, increased dosage or supplementary animal insulin may be required.

Contraindications: Orinase as the sole therapeutic agent is contraindicated in juvenile diabetes; unstable or brittle diabetes; and diabetes complicated by ketosis, acidosis or coma.

Side effects: Side effects are mild, transient and limited to approximately 3% of patients. Hypoglycemia and toxic reactions are extremely rare. Hypoglycemia is most likely to occur during the period of transition from insulin to Orinase. Other untoward reactions to Orinase are usually not of a serious nature and consist principally of gastrointestinal disturbances, headache, and variable allergic skin manifestations. The gastrointestinal disturbances (nausea, epigastric fullness, heartburn) and headache appear to be related to the size of the dose, and they frequently disappear when dosage is reduced to maintenance levels or the total daily dose is administered in divided portions after meals. The allergic skin manifestations (pruritus, erythema, and urticarial, morbilliform, or maculopapular eruptions) are transient reactions, which frequently disappear with continued drug administration. However, if the skin reactions persist, Orinase should be discontinued.

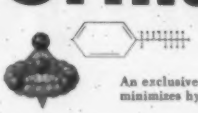
Clinical toxicity: Orinase appears to be remarkably free from gross clinical toxicity on the basis of experience accumulated during more than four years of clinical use. Crystalluria or other untoward effects on renal function have not been observed. Long term studies of hepatic function in humans and experience in over 600,000 diabetics have shown Orinase to be remarkably free of hepatic toxicity. There has been reported only one case of cholestatic jaundice related to Orinase administration, which occurred in a patient with pre-existing liver disease and which rapidly reversed upon discontinuance of the drug.

Each tablet contains:
Tolbutamide ..... 0.5 Gm.
Supplied in bottles of 50.

References:
1. Bollinger, R. E., *et al.*: J. Kansas M. Soc. *61*:135 (March) 1960. 2. Williams, R. H.: Diabetes, New York, Paul B. Hoeber, Inc., 1950, pp. 491, 492. 3. Bradley, R. F.: Ann. New York Acad. Sc. *82*:513 (Sept. 25) 1959. 4. Sherry, S., *et al.*: Ann. New York Acad. Sc. *71*:249 (July 10) 1957.

Orinase*

Upjohn



An exclusive methyl "governor" minimizes hypoglycemia.

The Upjohn Company, Kalamazoo, Michigan

*Trademark, Reg. U. S. Pat. Off. — tolbutamide, Upjohn

900 CALORIES AND NO DOCTOR?

LET'S CONSIDER . . . *A 900 calorie daily diet that supplies no bulk is frequently not enough* to even dent the appetite and "bulk hunger" demands of many overweight patients. Neither is a self-administered diet plan a suitable substitute for a *medically-supervised* weight reduction program. Such fad-inspired regimens overlook the fundamental physiologic problems of obesity. Obocell helps the obese patient adhere to *your* diet chart by curbing gnawing appetite *and* suppressing bulk hunger during and between meals. Under your care, and with Obocell as the basic control factor, patients can arrive at their desired weight on schedule. Time and again, this combination of a *physician-prescribed* diet reinforced by Obocell therapy has proved to be the safest, most satisfactory way to shorten patients' beltlines while lengthening their lifelines. **IRWIN, NEISLER & CO.** DECATUR, ILL.

***only* through your prescription**

OBOCELL® TABLETS

OBOCELL®, brand of anorexic, Neisler. **Formula:** Dextro-Amphetamine Phosphate, 5 mg.; Nicel (Irwin, Neisler's brand of high-viscosity Methylcellulose), 160 mg. **Action:** Obocell controls the appetite by acting on the central nervous system, and controls bulk hunger by supplying non-nutritive bulk to create a sense of fullness and satisfaction. **Dosage:** 3 to 6 tablets daily with a full glass of water, preferably one hour before meals.

a pair of cardiac patients:

both are free of pain—but only one is on

DILAUDID®

(Dihydromorphinone HCl)

swift, sure analgesia normally unmarred by nausea and vomiting

DILAUDID provides unexcelled analgesia in acute cardiovascular conditions. Onset of relief from pain is almost immediate. The high therapeutic ratio of DILAUDID is commonly reflected by lack of nausea and vomiting—and marked freedom from other side-effects such as dizziness and somnolence.

by mouth **by needle** **by rectum**

2 mg., 3 mg., and 4 mg.

May be habit forming—usual precautions should be observed as with other opiate analgesics.

KNOLL PHARMACEUTICAL COMPANY • ORANGE, NEW JERSEY

Theragran®

SQUIBB VITAMINS FOR THERAPY

For your patients with infections or other illnesses who need therapeutic vitamin support. Each Theragran supplies the essential vitamins in truly therapeutic amounts:

Vitamin A	25,000 U.S.P. Units
Vitamin D	1,000 U.S.P. Units
Thiamine Mononitrate	10 mg.
Riboflavin	10 mg.
Niacinamide	100 mg.
Vitamin C	200 mg.
Pyridoxine Hydrochloride	5 mg.
Calcium Pantothenate	20 mg.
Vitamin B_{12}	5 mcg.

SQUIBB *Squibb Quality—the Priceless Ingredient*

'Theragran'® is a Squibb trademark

"nutrition...present as a modifying or complicating factor in nearly every illness or disease state"[1]

1. Youmans, J. B.: Am. J. Med. 25:659 (Nov.) 1958

cardiac diseases "Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease."[2] 2. Kampmeier, R. H.: Am. J. Med. 25:662 (Nov.) 1958.

arthritis "It is our practice to prescribe a multiple vitamin preparation to patients with rheumatoid arthritis simply to insure nutritional adequacy . . ."[3]

3. Fernandez-Herlihy, L: Lahey Clinic Bull. 11:12 (July-Sept.) 1958.

digestive diseases Symptoms attributable to B-vitamin deficiency are commonly observed in patients on peptic ulcer diets.[4] Daily administration of therapeutic vitamins to patients with hepatitis and cirrhosis is recommended by the National Research Council.[5] 4. Sebrell, W. H.: Am. J. Med. 25:673 (Nov.) 1958. 5. Pollack, H., and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D. C., 1952, p. 57.

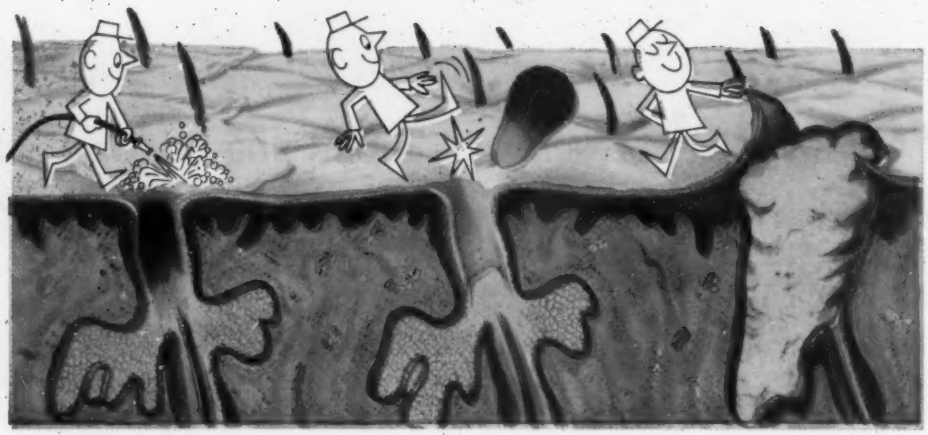
degenerative diseases "Studies by Wexberg, Jolliffe and others have indicated that many of the symptoms attributed in the past to senility or to cerebral arteriosclerosis seem to respond with remarkable speed to the administration of vitamins, particularly niacin and ascorbic acid. These facts indicate that the vitamin reserve of aging persons is lowered, even to the danger point, more than is the case in the average American adult."[6] 6. Overholser, W., and Fong, T.C.C. In Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264.

infectious diseases Infections cause a lowering of ascorbic acid levels in the plasma; and the absorption of this vitamin is reduced in diarrheal states.[7] 7. Goldsmith, G. A.: Conference on Vitamin C. The New York Academy of Sciences, New York City, Oct. 7 and 8, 1960. Reported in: Medical Science 8:772 (Dec.10) 1960.

diabetes Diabetics, like all patients on restricted diets, require an extra source of vitamins.[8] "Rigidly limiting the bread intake of the diabetic patient automatically eliminates a large amount of thiamin from the diet. . . . There is some evidence of interference with normal riboflavin utilization during catabolic episodes."[9]

8. Duncan, G. G.: Diseases of Metabolism 4th edition W. B. Saunders, Philadelphia, 1959, p. 812. 9. Pollack, H.: Am. J. Med. 25:708 (Nov.) 1958.

FOR FULL INFORMATION SEE YOUR SQUIBB PRODUCT REFERENCE OR PRODUCT BRIEF.



Fostex® treats pimples·blackheads·acne while they wash

degreases the skin
helps remove blackheads
dries and peels the skin

Patients like Fostex because it's so easy to use. Instead of using soap, they simply wash acne skin with Fostex Cream or Fostex Cake 2 to 4 times daily.

Fostex contains: Sebulytic® base (unique, penetrating, surface-active combination of soapless cleansers and wetting agents*) with remarkable antiseborrheic, keratolytic and antibacterial actions . . . enhanced by micropulverized sulfur 2%, salicylic acid 2% and hexachlorophene 1%.

*sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate and sodium dioctyl sulfosuccinate.

Fostex Cream and Fostex Cake are interchangeable for therapeutic washing of the skin. Fostex Cream is approximately twice as drying as Fostex Cake. Supplied: Fostex Cake—bar form. Fostex Cream—4.5 oz. jars. Also used as a therapeutic shampoo in dandruff and oily scalp.

And . . . since continuous 24-hour drying and peeling of acne skin is essential, FOSTRIL (a new, flesh-tinted drying lotion) should be used once or twice daily in addition to Fostex therapeutic washings. Fostril® contains Liposec® (polyoxyethylene lauryl ether), a new, surface-active drying agent used for the first time in acne treatment. This agent, with 2% micropulverized sulfur and a zinc oxide, talc and bentonite base, provides Fostril with excellent drying properties. Fostril also contains 1% hexachlorophene.

Available: Fostril, 1½ oz. tubes. Fostril-HC (¼% hydrocortisone) 25 gm. tubes.

WESTWOOD PHARMACEUTICALS • Buffalo 13, New York

Who Is This Doctor?

Identify the famous physician from clues in this brief biography

He died on January 25, 1960, in his 80th year, having risen from poverty to a surgical, teaching, editing and writing career of prolific proportions and international recognition.

He was born in Hungary of a mother who was one of the first physicians graduated in obstetrics from the University of Budapest and a father who was a general practitioner. His maternal grandfather had practiced medicine in Boston. His son was to become a distinguished American surgeon, the two often joining their careers.

After his younger brother was killed in a pogrom in the spring of 1897, the family moved to Chicago to join a presumably wealthy relative. But the wealth was nonexistent. Supporting the family by giving violin lessons and playing in a gypsy orchestra, he earned his tuition at the University of Chicago by playing on the snare drums in the university band. He received his M.D. at Rush Medical College in 1904, the same year he became a U.S. citizen.

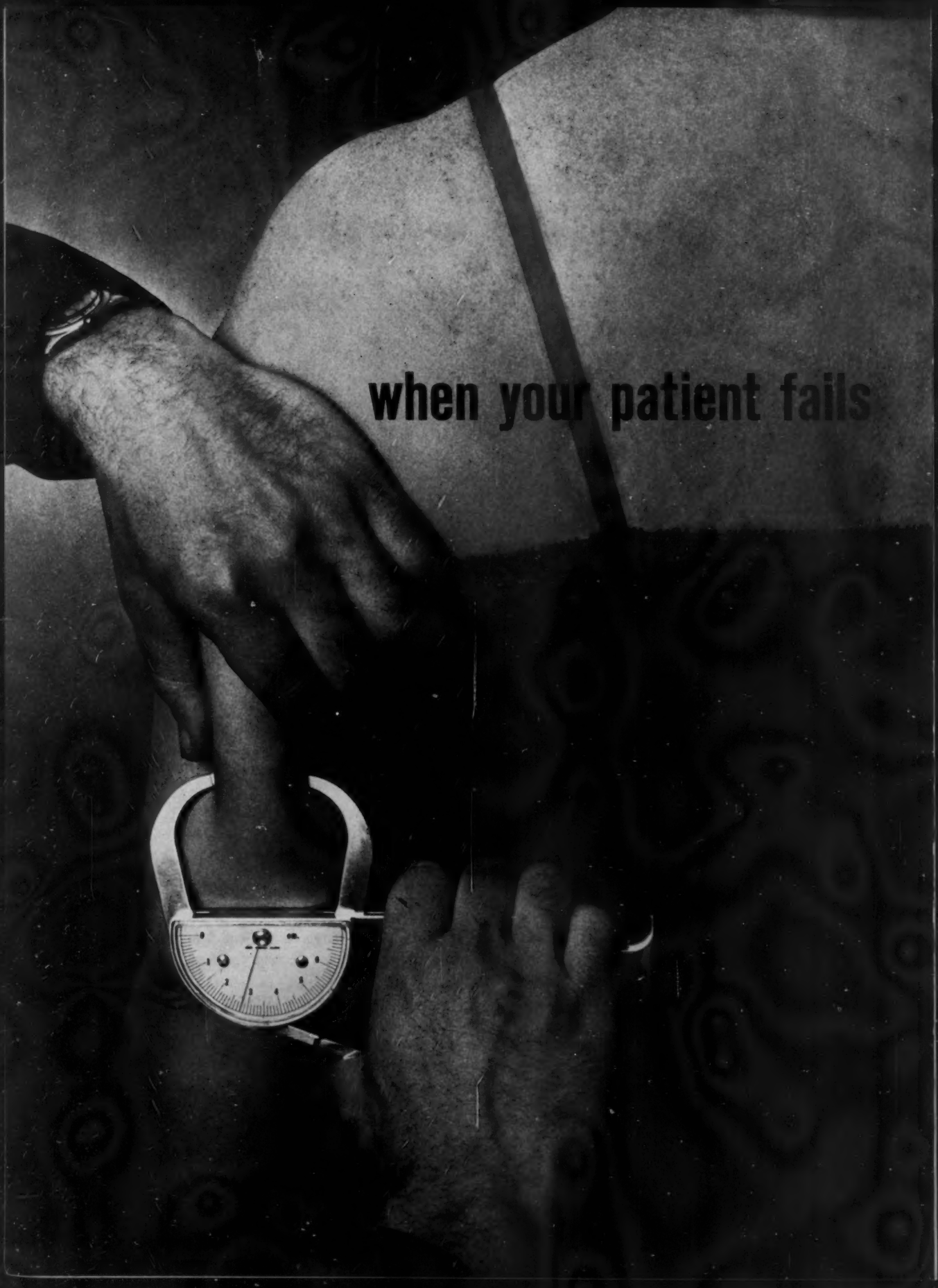
He founded the American Hospital in 1908, in Chicago, and was its chief surgeon for fifty years. Although reconstructive surgery and glandular transplantation were his chief interests, his diagnostic acumen and surgical technique attracted thousands of students and surgeons to Chicago to watch his work in every surgical field.

He founded the International College of Surgeons in Geneva in 1935 and became its permanent international secretary-general and editor-in-chief of its journal.

He was a founder of the Photographic Society of America and a fellow of the Royal Society of Arts and the Royal Photographic Society of Great Britain. He wrote two photography books, Creative Camera Art (1937) and Camera Art as a Means of Self-Expression (1947).

His autobiography, *A Surgeon's World,* was declared by Amy Loveman to be "an extremely readable book."

Can you name this doctor? *Answer on page 178a.*


when your patient fails

If fatness is the problem, the skinfold test will tell...

Studies emphasize that persons of "normal" body weight exhibit differences in their fatness and that body weight is an imperfect guide to body fat.[3, 4, 5] Recently, the calibrated measurement of skinfolds has received increasing clinical attention as a method of measuring obesity – because of its simplicity, rapidity and accuracy.[1, 2]

Measurement is made at selected sites with special constant tension calipers.[3]

Detailed information on the skinfold test is given in a special booklet, available to physicians on request.

the skinfold test

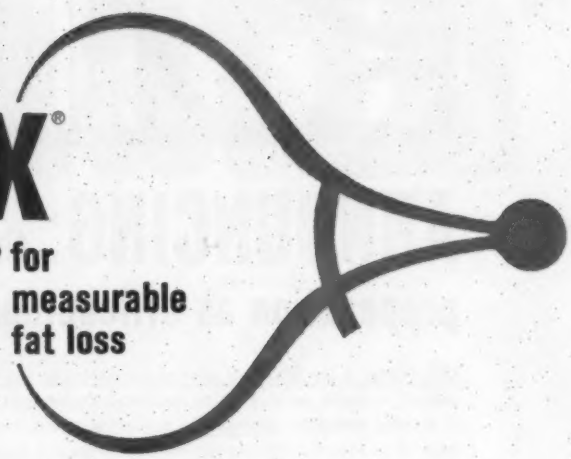
NEW BAMADEX®

Dextro-amphetamine sulfate with meprobamate

SEQUELS®

Sustained Release Capsules

for measurable fat loss



NEW BAMADEX SEQUELS *contain the appetite-suppressant, d-amphetamine, effectively balanced with the tranquilizer, meprobamate, for sustained, effective appetite control without overstimulation of the central nervous system. One* BAMADEX SEQUELS *capsule suppresses appetite up to 8 hours... carries the patient through the critical period of compulsive eating... helps establish a new pattern of eating less – the ultimate aim of therapy.*

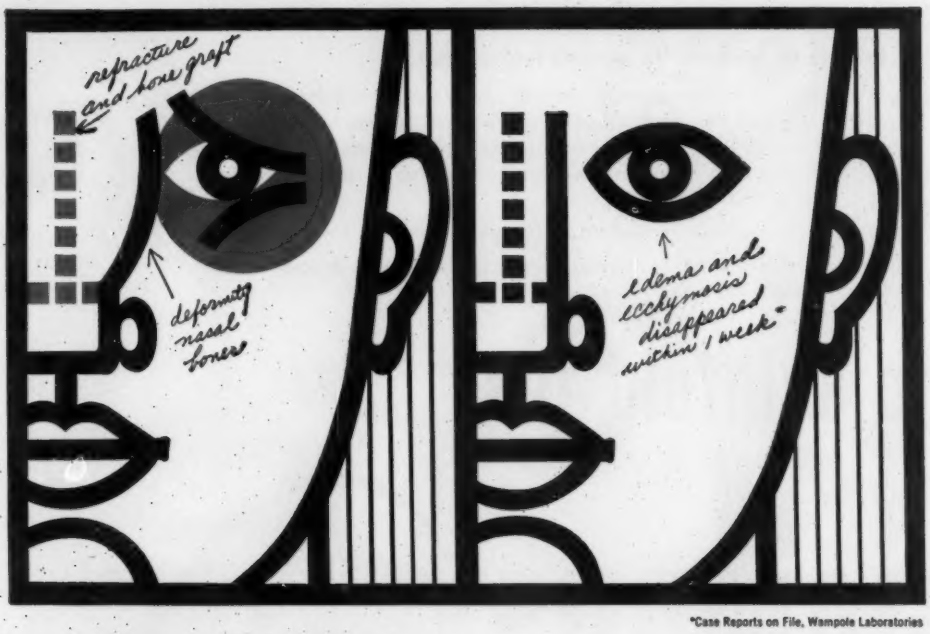
Each capsule contains: d-amphetamine sulfate, 15 mg.; meprobamate, 300 mg. **Dosage:** One capsule one-half hour before breakfast. **Supply:** Bottles of 30. **Precautions:** Use with caution in patients hypersensitive to sympathomimetic compounds, who have coronary or cardiovascular disease, or who are severely hypertensive.

REQUEST COMPLETE INFORMATION ON INDICATIONS, DOSAGE, PRECAUTIONS AND CONTRAINDICATIONS FROM YOUR LEDERLE REPRESENTATIVE OR WRITE TO MEDICAL ADVISORY DEPARTMENT.

References: 1. Bost, W.R.: J. Lab. & Clin. Med. 43:967 (1954). 2. Brožek, J. and Keys, A.: Nutrition Abstr. & Rev. 20:247 (1950). 3. Garn, S.M. and Shamir, Z.: In Methods for Research in Human Growth. Charles C. Thomas, Springfield, Ill., 1958, p. 64. 4. Mayer, J.: Postgrad. Med. 25:469 (1959). 5. Tanner, J.M.: Proc. Nutrition Soc. 18:148 (1959).

(Lange Skinfold Caliper courtesy of Kentucky Research Foundation, Wenner-Gren Aeronautical Research Laboratory, University of Kentucky, Lexington, Kentucky)

Lederle **LEDERLE LABORATORIES, A Division of American Cyanamid Company, Pearl River, New York**



*Case Reports on File, Wampole Laboratories

ANNOUNCING: the first oral enzyme preparation as efficacious as an injection

Chymotrypsin is the only orally administered proteolytic enzyme likely to reach the site of inflammation in active form. In contrast to trypsin, which is rapidly inactivated, chymotrypsin remains relatively stable in human intestinal juice.[1,2] **Evidence of systemic absorption**—Experimental: Radioactive studies show blood levels after one 20 mg. AVAZYME tablet comparable to those of intramuscular injection of 5 mg. chymotrypsin.[1,3] Clinical: Oral AVAZYME therapy reversed the inflammatory process in chronic and acute conditions; prevented severe postoperative edema and ecchymosis.[4,5] **Well tolerated and practical**—Eliminates painful or necrotizing injections, and reduces the risk of allergic or anaphylactoid reactions.

INDICATED in trauma, pre- and post-surgery, thrombophlebitis, ophthalmology, obstetrics and gynecology, urology, respiratory conditions, otolaryngology, oral and dental pre- and post-surgery. **Dosage**: In severe cases, two tablets four times daily followed by a maintenance dosage of one tablet four times daily. In mild cases, one tablet four times daily is sufficient. In the presence of infections, appropriate antibiotic therapy should be used concurrently. AVAZYME is compatible with all commonly used drugs. **Available** as crystalline chymotrypsin (AVAZYME) in yellow enteric coated tablets equivalent in proteolytic activity to 50,000 Wampole Units (approximately 20 mg.), bottles of 48. **NOTE**: In the event that AVAZYME tablets are not readily obtainable, the pharmacist can be assured of supplies by calling his wholesaler. AVAZYME is carried by all major wholesalers.

REFERENCES: 1. Avakian, S.: New England J. Med. 264:764, 1961. 2. Wohlman, A., Kabacoff, B. L., and Avakian, S.: to be published. 3. Bogner, R. L.: to be published. 4. Coleman, J. M., et al.: Intestinal Absorption of Crystalline Chymotrypsin, Exhibit presented at the Scientific Session of the American Academy of General Practice, Miami Beach, Florida, April 17, 1961. 5. Monninger, R. H. G.: scheduled for publication in Clinical Medicine; 1961.

NEW Avazyme®

an oil crystalline chymotrypsin tablet

An orally administered enzyme with proven absorption.
A research development of Wampole Laboratories.

WAMPOLE LABORATORIES

Stamford, Connecticut

FOR PROVEN EFFICACY IN INFECTIOUS DIARRHEAS

Humatin® KAPSEALS

(paromomycin, Parke-Davis)

A WELL-TOLERATED ANTIBIOTIC-AMEBICIDE

HUMATIN possesses high antibacterial and antiamebic activities, coupled with a low order of oral toxicity.[1] Because it is effective against many gram-negative pathogens, HUMATIN has proved valuable in the treatment of infectious diarrheas and other enteric infections, most of which are caused by bacilli of the gram-negative group.[2-5] Characteristic of the favorable response to HUMATIN is a prompt reduction in the number of stools per day, a decrease in fever, and rapid alleviation of other symptoms of infection.[2,3,5] HUMATIN is also useful in all phases of intestinal amebiasis,[1,5-12] and has shown promise of being useful in the preoperative suppression of intestinal flora,[5] and in the adjunctive management of hepatic coma.[13-15]

HUMATIN is not appreciably absorbed from the gastrointestinal tract and is, therefore, not effective against systemic infections. Systemic toxicity has not been a problem. *See medical brochure for details of administration, precautions, and dosage.*

SUPPLIED: HUMATIN (paromomycin, Parke-Davis) is available as the sulfate in Kapseals,® each containing the equivalent of 250 mg. of base, in bottles of 16.

REFERENCES: (1) Coffey, G. L., *et al.: Antibiotics & Chemother.* 9:730, 1959. (2) Courtney, K. O.; Thompson, P. E.; Hodgkinson, R., & Fitzsimmons, J. R.: *Antibiotics Annual* 7:304, 1959-1960. (3) Godenne, G. D.: *ibid.*, 310. (4) McMath, W. F. T., & Hussain, K. K.: *Pub. Health* 73:328, 1959. (5) Personal Communications to Department of Clinical Investigation, Parke, Davis & Company, 1959. (6) Shafei, A. Z.: *Antibiotic Med. & Clin. Therapy* 6:275, 1959. (7) Lopez Elias, F., & Oliver-Gonzalez, J.: *Antibiotic Med. & Clin. Therapy* 6:584, 1959. (8) Carter, C. H.: *Antibiotic Med. & Clin. Therapy* 6:586, 1959. (9) Thompson, P. E., *et al.: Antibiotics & Chemother.* 9:618, 1959. (10) Dooner, H. P.: *Antibiotic Med. & Clin. Therapy* 7:486, 1960. (11) Coles, H. M. T., *et al.: Lancet* 1:944, 1960. (12) Moffett, H. F., & Toh, S. H.: *Antibiotic Med. & Clin. Therapy* 7:569, 1960. (13) Fast, B. B.; Wolfe, S. J.; Stormont, J. M., & Davidson, C. S.: *Arch. Int. Med.* 101:467, 1958. (14) Mackie, J. E.; Stormont, J. M.; Hollister, R. M., & Davidson, C. S.: *New England J. Med.* 259:1151, 1958. (15) Stormont, J. M.; Mackie, J. E., & Davidson, C. S.: *New England J. Med.* 259:1145, 1958.

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

'PERAZIL'®

long-acting antihistamine

USES: 'Perazil' relieves the symptoms of sneezing, "incessant" itching, inflamed eyes, rhinorrhea, itching eyes, nose and throat, associated with:
Hay Fever • *Pollenosis* • *Pruritus* • *Urticaria* • *Vasomotor Rhinitis* • *Allergic Dermatitis* • *Drug Sensitivity*

ADVANTAGES: 'Perazil' is both prompt and prolonged in effect, providing symptomatic relief lasting 12 to 24 hours from a single dose.

PRECAUTION: When drowsiness does occur it is generally mild and the usual precautions should be observed. No toxic effects related to either the blood-forming organs or the cardiovascular system are produced.

DOSAGE: Adults and children over 8 years, 50 mg. once or twice daily as required. The dose may be increased in severe cases.

Children from 2 to 8 years, 25 mg. (one sugar-coated tablet) once daily.

Infants up to 2 years, 12½ mg. (one quarter of a 50 mg. tablet) crushed and mixed with a spoonful of jam or syrup.

SUPPLIED: Tablets of 25 mg., sugar-coated, bottles of 100 and 1000; 50 mg., scored, bottles of 100 and 1000.

'PERAZIL'® brand Chlorcyclizine Hydrochloride

BURROUGHS WELLCOME & CO. (U. S. A.) INC., Tuckahoe, New York

Hostile Environment...

The fungus, protozoa and bacteria that commonly cause mild and severe leukorrhea require a vaginal pH of 5 to 12 for proliferation.

Trimagill creates a hostile environment! It produces a pH of 2.0 to 2.5—*the three principal infecting organisms cannot live in this acid range.*

Trimagill is well tolerated and has been proved effective in thousands of cases of leukorrhea, vaginitis, cervicitis, moniliasis and mixed infections. No untoward reactions that would require discontinuation of treatment were reported. At times denuded mucous membranes are so irritated that Trimagill may give a *temporary* burning sensation. This is usually short lived.

Trimagill does not foster resistant mutants or result in monilia overgrowth. Trimagill may be used during menstruation.

CONTENTS: Tartaric Acid, Citric Acid, Boric Acid, Dextrose, Potassium Alum, Potassium Bitartrate and Adhesives.

SUPPLIED: Powder: 5-oz. Plastic Insufflator Bottles; Vaginal Inserts: Boxes of 24.

NOTE: Consult package circular for information on dosage and instructions for use.

Write for descriptive literature.

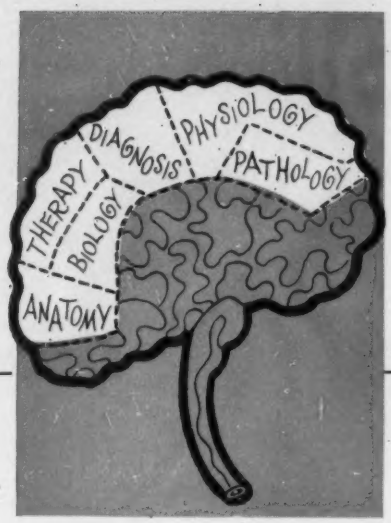
TRIMAGILL®*

POWDER • VAGINAL INSERTS

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee • New York • Kansas City • San Francisco

*Patent applied for.



Mediquiz

These questions were prepared especially for Medical Times by the Professional Examination Service, a division of the American Public Health Association. Answers will be found on page 178a.

1. Alimentary absorption of tetracyclines is markedly reduced in the presence of:

A) Aluminum salts.
B) Biliary obstruction.
C) Regional enteritis.
D) Mineral oil.
E) Sulfa drugs.

2. The most common type of intussusception is:

A) Ileocecal.
B) Colic.
C) Ileocolic.
D) Entero-enteral.
E) Gastroenteral.

3. The only form of deafness which can be helped surgically is:

A) Congenital perceptive.
B) Conductive.
C) Toxic.
D) Acquired perceptive.
E) Vasomotor.

4. A perforation of the soft palate in the absence of trauma suggests:

A) Torus palatinus.
B) Congenital syphilis.
C) Vincent's angina.
D) Chronic fluoride poisoning.
E) Quinsy.

5. One of the causes of a larger than expected uterus during pregnancy is:

A) Pre-eclampsia.
B) Placenta praevia.
C) A hydatidiform mole.
D) Hydrops fetalis.
E) Eclampsia.

6. Follicle-stimulating hormone is produced in the:

A) Anterior pituitary.
B) Posterior pituitary.
C) Ovary.
D) Endometrium.
E) Adrenal cortex.

7. The chief value of the Schiller test is to:

A) Diagnose sickle cell anemia.
B) Discolor only areas of cancer on the cervix.
C) Indicate the age of polymorphonuclear leukocytes.
D) Point out areas for biopsy on the uterine cervix.
E) Indicate functioning trophoblast.

8. The principal cause of death from tuberculosis during the first few years of life is:

A) Uremia secondary to genito-urinary tuberculosis.
B) Tuberculous meningitis.
C) Tuberculosis pneumonitis.
D) Tuberculous peritonitis.
E) Pulmonary tuberculosis.

Concluded on page 76a

Geriactive with Filmtab® Gerilets®

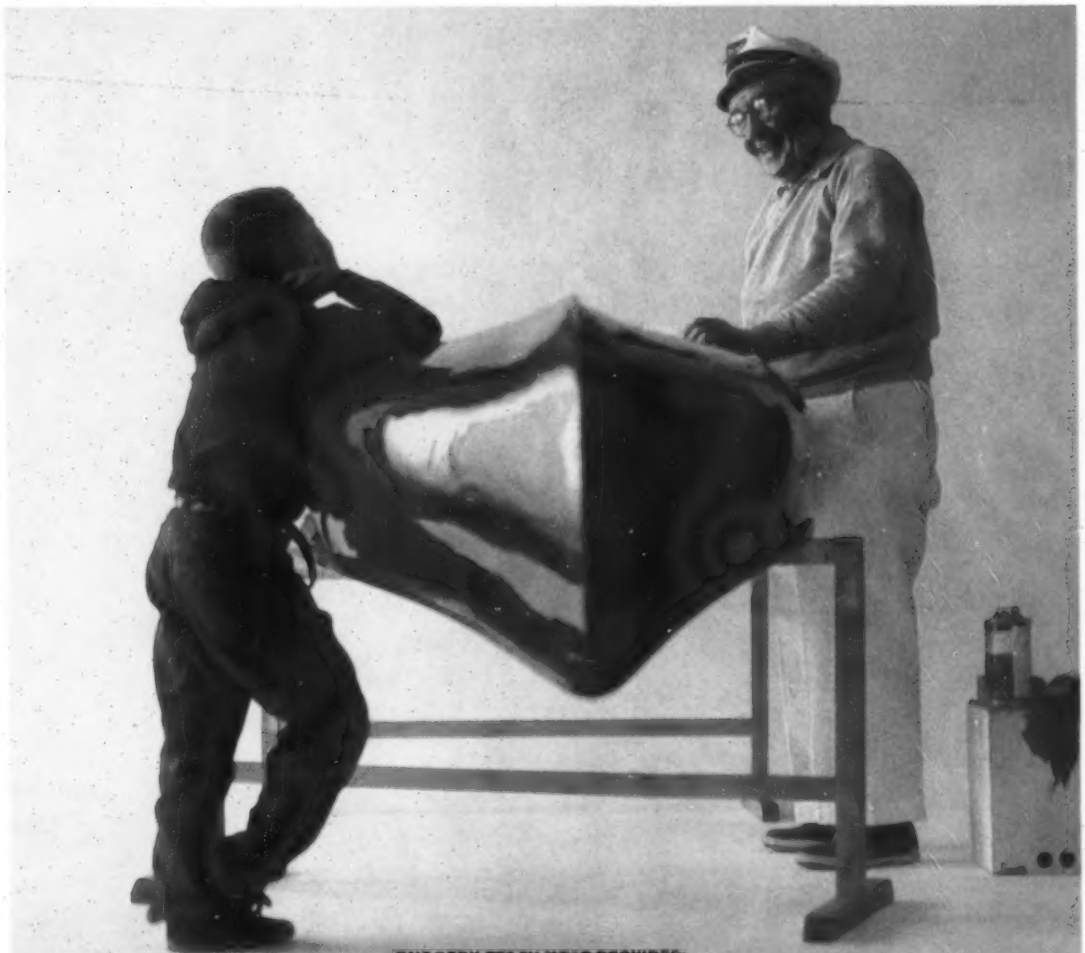
Geriatric Supportive Formula, Abbott

He's crossed a somewhat arbitrary point in life over into what's been dubbed "the geriatric years." In many ways, though, you'd never really know it. (Not to suggest that he'd *seriously* consider following the elusive current leading to Easter Island.)

But, he is nonetheless busy. He works . . . has hobbies . . . keeps up with the world around him.

And one way for you to help keep your geriatric's attitude optimistic, rather than diffident, is through Filmtab Gerilets. For, with Gerilets, you're prescribing dietary and therapeutic support which can contribute towards: improving functions illness or age have impaired—toning up the patient's appetite—brightening his overall outlook.

Dosage? Easy. Just a single, tiny pleasant-to-take Gerilets Filmtab a day.



ONE GERILETS FILMTAB PROVIDES:

B-Complex Vitamins
Thiamine Mononitrate (B_1) 5 mg.
Riboflavin (B_2) ..... 5 mg.
Pyridoxine Hydrochloride (B_6) ..... 1 mg.
Nicotinamide..... 20 mg.
Calcium Pantothenate..... 5 mg.

Oil Soluble Vitamins
Vitamin A.... 1.5 mg. (5000 units)
Vitamin D... 12.5 mcg. (500 units)
Vitamin E..... 10 int. units

Hematopoietic Factors
Cobalamin (Vitamin B_{12})... 5 mcg.
Ferrous Sulfate, USP..... 75 mg.
(representing 15 mg. elemental iron)
*Folic Acid..... 0.25 mg.

Capillary Stability
Ascorbic Acid (C)..... 50 mg.
Quertine®..... 12.5 mg.
(Quercetin, Abbott)

Lipotropic Factors
Betaine Hydrochloride..... 50 mg.
Inositol..... 50 mg.

Anti-Depressant
Desoxyn®..... 1 mg.
(Methamphetamine Hydrochloride, Abbott)

Hormones
Sulestrex®..... 0.3 mg.
(Piperazine Estrone Sulfate, Abbott)
Methyltestosterone..... 2.5 mg.

*FOLIC ACID DOES NOT CONTROL THE NEUROLOGICAL SYMPTOMS OF PERNICIOUS ANEMIA.

107019 FILMTAB—FILM-SEALED TABLETS, ABBOTT; U.S. PAT. NO. 2,891,009.

2 Iberol Filmtabs a day supply:

The Right Amount of Iron

Ferrous Sulfate, U.S.P..... 1.05 Gm.
(Elemental Iron—210 mg.)

Plus Therapeutic B-Complex

Cobalamin (Vitamin B_{12})..... 25 mcg.
Liver Fraction 2, N. F..... 200 mg.
Thiamine Mononitrate..... 6 mg.
Riboflavin..... 6 mg.
Nicotinamide..... 30 mg.
Pyridoxine Hydrochloride..... 3 mg.
Calcium Pantothenate..... 6 mg.

Plus Vitamin C

Ascorbic Acid..... 150 mg.

Filmtab—Film-sealed tablets, Abbott

Note: Iberol®-F with 1 mg. of Folic Acid in each Filmtab is available on your prescription. (Folic Acid does not control neurological symptoms of pernicious anemia.) 107020

ABBOTT

Anemia in the menopause

Another indication for Filmtab® **IBEROL®**
(Iron, Vitamin B_{12}, and Other Vitamins, Abbott)

Potent antianemia therapy plus therapeutic B-complex, with the exclusive Filmtab coating which protects stability—locks in vitamin taste and odor.

Concluded from page 74a

9. Improper medical treatment of a child with infantile eczema may result in:

A) Atopic dermatitis.
B) Eczema herpeticum.
C) Eczema vaccinatum.
D) Hay fever.
E) Asthma.

10. A 43-year-old man ate a large meal at a wedding reception. Soon after, he vomited several cupfuls of partly digested food and experienced an intense, sharp epigastric pain. An injection of morphine, given by his physician, did not relieve the pain, which gradually became substernal and radiated around into the back between the scapulae. He was then brought to the hospital. When he was examined his temperature was 100°F., his respiration was 28 and labored, his pulse was 87 and regular, and his blood pressure was 95/50. He was cyanotic. There was subcutaneous emphysema about his thorax, his abdomen was rigid, and no masses were palpated. He had diffuse tenderness in both upper quadrants. Roentgen examination revealed no free air under the diaphragm.

The finding most compatible with this patient's condition is:

A) A transaminase of 400 units.
B) Q waves and elevated S-T reading in Lead I, aVL, V_5-V_6.
C) Direct communication with the peritoneal cavity as revealed by lipiodol swallow during roentgen examination.
D) A serum amylase of 2400 units.
E) Direct communication with the pleural

cavity as revealed by lipiodol swallow during roentgen examination.

11. The main complaint in a subject with an aberrant subclavian artery is usually:

A) Angina pectoris.
B) Dysphagia.
C) Hoarseness.
D) Syncope.
E) Dizziness.

12. A finding that is specific to acute hemorrhagic pancreatitis is:

A) A high amylase content in the peritoneal fluid.
B) An elevated serum amylase value.
C) Abdominal calcifications seen on x-ray.
D) Elevated urinary amylase and lipase values.
E) Periumbilical petechiae.

13. Which one of the following statements concerning intestinal disease is *incorrect?*

A) Diverticulosis, complicated by inflammation, is often responsible for inducing carcinoma of the colon.
B) Meckel's diverticulum is a developmental remnant of the vitelline duct.
C) The concurrence of hiatus hernia and cholelithiasis in patients with diverticulosis is fairly common.
D) The incidence of carcinoma of the colon is higher in patients with chronic ulcerative colitis than it is in the general population.
E) Patients with congenital polyposis of the entire gastrointestinal tract may show unusual pigmentation of the oral mucosa.

(Answers on page 178a)

CORRECTION

Due to a typographical error in our May Mediquiz, the answer to question No. 14 was listed as "C." The answer key should have indicated the correct answer to be "B." We are sorry for this error and appreciate the consideration of many of our readers who took the time to bring this to our attention.

about that biliary dyspepsia...

Give Supligol to increase the volume and flow of low viscosity bile through the biliary tree. The choleretic and hydrocholeretic action of the whole bile plus ketocholanic acids in Supligol effectively overcomes biliary stasis and aids fat digestion.
The result is a rapid return to normal biliary function and relief of constipation, flatulence and abdominal discomfort.
Contraindication: Complete biliary obstruction.

Supligol® Tablets **write for samples**

Whole bile plus ketocholanic acids

American Ferment Division, Breon Laboratories Inc., New York 18, N. Y.

what TWISTON does for your allergy patient

TWISTON®

rotoxamine

takes him out of this class: zzzzzzzzzz zzzzzzzzzzzzzz zzzzzzzzzzzzzz

puts him into this class: !!!!!!!!!!!!!!!! !!!!!!!!!!!!!!!!!!!!!!!!!!!! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

TWISTON is "tailor-made" to keep your allergy patient alert. Twiston is unsurpassed for symptom control. Twiston is effective in *unusually* low dosage: has a prolonged duration of action—drowsiness rarely occurs. No toxicity reactions reported.

TWISTON
. . . anti-allergic
. . . anti-side effects

available as:

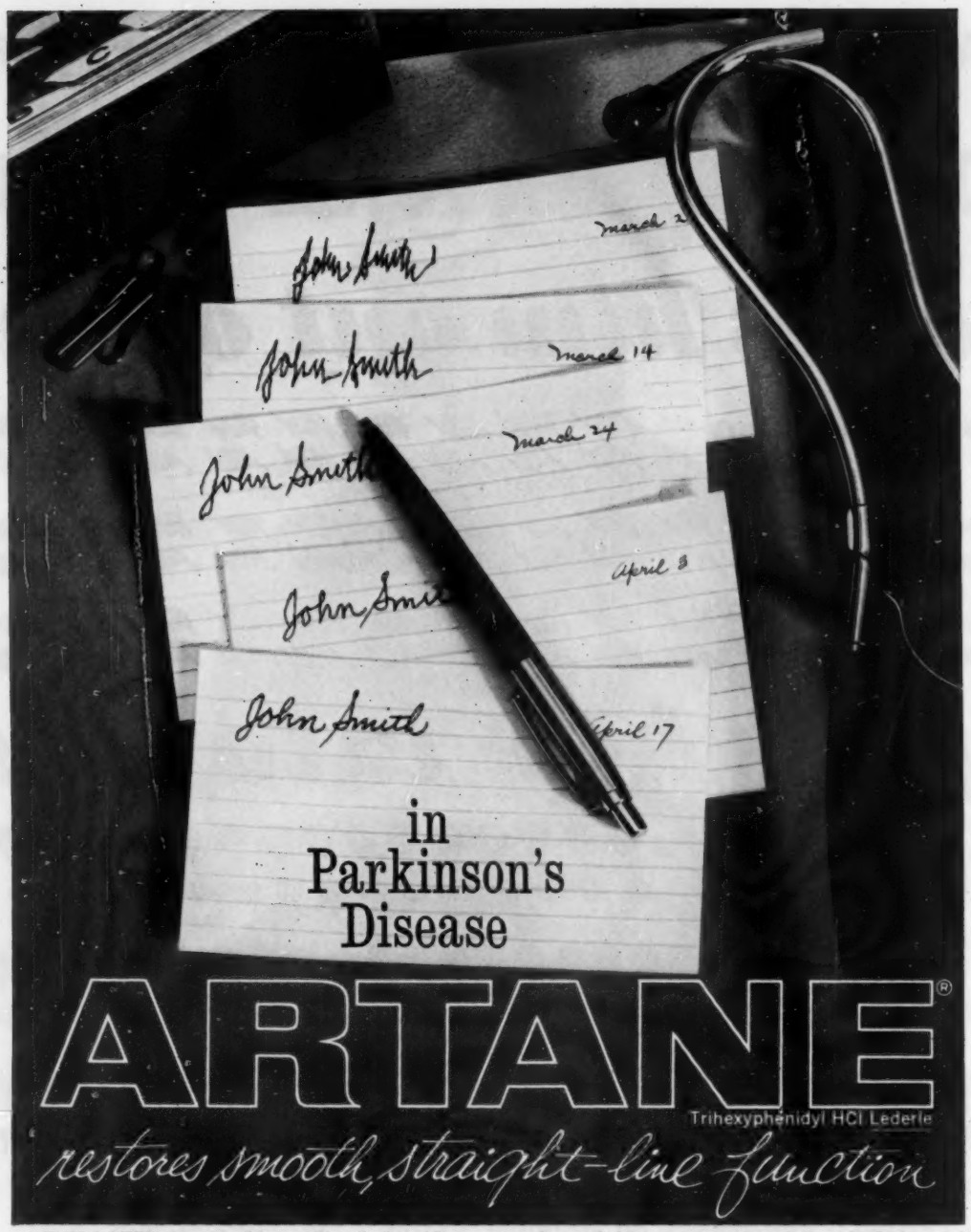
Tablets
TWISTON, 2mg.

Tablets
TWISTON R-A
(Repeat Action Tablets), **4mg.**

McNEIL

U.S. PATENT PENDING

McNeil Laboratories, Inc., Fort Washington, Pa.



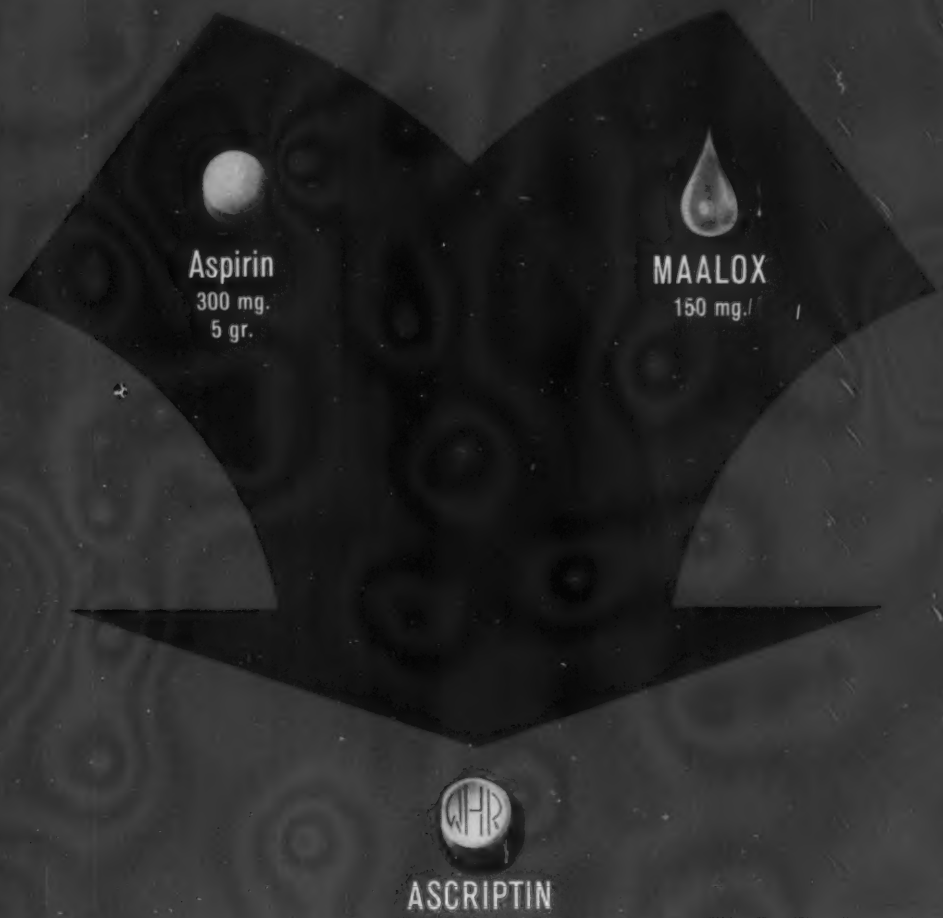
ARTANE is well suited to the needs of the greatest number of patients.[2] Improves rigidity, akinesia and mental depression. Controls oculogyria . . . remarkably free of toxic reactions.[1]

Indicated: All types of Parkinsonism, and to control extrapyramidal reactions in ataractic therapy. Supplied: Tablets, 2 mg. and 5 mg.; Elixir, 2 mg./5 cc. tsp. 1. Constable, K.: J. Am. M. Women's A. 15:757 (Aug.) 1960. 2. Critchley, M.: Brit. M. J. 2:1214 (Nov. 15) 1958.

Request complete information on indications, dosage, precautions and contraindications from your Lederle Representative or write to Medical Advisory Department.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

aspirin buffered with the most widely-prescribed antacid...



in long-term administration, as in Arthritis,
when aspirin combined with an antacid is desired:

Specify **Ascriptin**® RORER

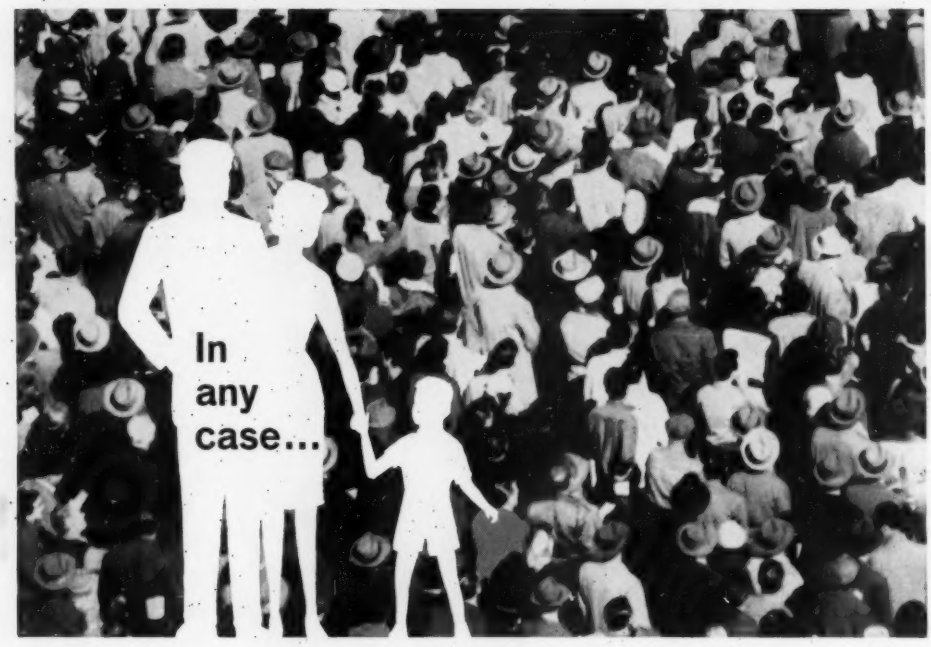
the aspirin buffered with the best

To prevent or minimize gastric distress which often accompanies prolonged or high level administration of acetylsalicylic acid, ASCRIPTIN provides aspirin in combination with MAALOX®, the preferred professional antacid. The recognized superiority of MAALOX makes ASCRIPTIN a superior aspirin-antacid, with the virtues of buffered aspirin and with the added distinction of being promoted professionally only.

Indicated wherever salicylates are useful, ASCRIPTIN is particularly suited to the long-term requirements of your arthritic patients.

Supplied: Bottles of 100 and 500 tablets. For severe pain – Capsules ASCRIPTIN with Codeine (codeine phosphate 15 mg.), bottles of 50.

WILLIAM H. RORER, INC. PHILADELPHIA, PENNSYLVANIA



LOMOTIL®

(brand of diphenoxylate hydrochloride with atropine sulfate)

- lowers motility
- **controls diarrhea**

Lomotil brings prompt symptomatic control in diarrhea, either acute or chronic.

Both pharmacologic and clinical evidence indicate that Lomotil selectively lowers the propulsive component of gastrointestinal motility without relaxing intestinal sphincters. So efficient is this action that studies in mice have shown Lomotil to be effectively antidiarrheal in one-eleventh the dosage of morphine.

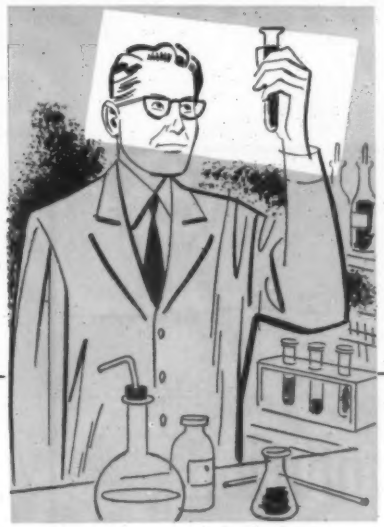
Such striking antidiarrheal activity strongly suggests that Lomotil is the drug of *first* choice for prompt and positive control of diarrhea.

Dosage: The recommended initial dosage for adults is two tablets (2.5 mg. each) three or four times daily, reduced to meet the requirements of each patient as soon as the diarrhea is under control. Maintenance dosage may be as low as two tablets daily. Lomotil is supplied as unscored, uncoated white tablets of 2.5 mg., each containing 0.025 mg. of atropine sulfate to discourage deliberate overdosage. Recommended dosage schedules should not be exceeded.

An exempt preparation under Federal Narcotic Law.

Descriptive literature and directions for use available in Physicians' Product Brochure No. 81 from G. D. Searle & Co., P.O. Box 5110, Chicago 80, Illinois.

G. D. SEARLE & CO.
CHICAGO 80, ILLINOIS
Research in the Service of Medicine



MODERN MEDICINALS

These brief résumés of essential information on the newer medicinals which are not yet listed in the various reference books, can be pasted on file cards. This file can be kept by the physician for ready reference.

Analexin-400, Irwin, Neisler

INDICATIONS: For the relief of pain in a wide variety of acute, recurring, and chronic painful conditions.

DESCRIPTION: Each capsule contains 400 mg. of phenyramidol HCl. Non-narcotic.

DOSAGE: One capsule at onset of pain, followed by one capsule at intervals of one to four hours as needed.

SUPPLY: Bottles of fifty.

Avazyme, Wampole

INDICATIONS: For the reduction of all types of inflammation and edema in the treatment of bruises, contusions, fractures, hematomas, sprains and strains.

DESCRIPTION: Each tablet contains Crystalline chymotrypsin 50,000 Wampole units (approx. 20 mg.).

DOSAGE: In mild cases—One tablet four times a day; severe cases—two tablets four times a day.

SUPPLY: Bottles of forty-eight.

Decholin-BB, Ames

INDICATIONS: To relieve functional gastrointestinal and biliary tract disturbances.

DESCRIPTION: Contains sodium butabarbital 15 mg. (¼ gr.), Decholin, 250 mg. (3¾ gr.) . . . and extract of belladonna 10 mg. (1/6 gr.) which contains 0.125 mg. of total alkaloids.

DOSAGE: Adults—One or, if necessary, two tablets t.i.d.

SUPPLY: Bottles of one hundred.

Dornwal 400, Maltbie

INDICATIONS: For the treatment of anxiety and tension in various types of psychoneuroses, tension headache, behavior problems in children, and as adjunctive therapy in other conditions with psychosomatic components.

DESCRIPTION: 400 mg. (aminophenylpyridone brand of amphenidone).

DOSAGE: One tablet two, or three, times a day.

SUPPLY: Bottles of one hundred and five hundred.

Eppy, Barnes-Hind

INDICATIONS: For the control of simple (open angle) glaucoma, with or without additional miotic or carbonic anhydrase inhibitor therapy.

DESCRIPTION: A stabilized free-base complex (not a salt) of l-epinephrine, U.S.P. 1% incorporated in sterile buffered isotonic ophthalmic vehicle with sodium bisulfite 0.3% and oxine sulfate 0.01% added as preservatives.

DOSAGE: Dosage must be individualized by measurement of intraocular pressure before and during drug therapy. Some patients may need one drop in each eye every twenty-four hours, preferably at bedtime; others may require one drop every twelve hours, or more frequently.

SUPPLY: 7.5 cc. bottles.

Ferrolip-T, Flint-Eaton

INDICATIONS: To stimulate the appetite and provide a body-building adjunct for below-par patients.

DESCRIPTION: Chelated iron product that contains vitamins B_1, B_6, and B_{12}.

DOSAGE: As indicated.

SUPPLY: Four ounces.

Continued on page 90a

a quiet little revolution

INFLAMMATORY NEURITIS used to take three to six weeks for recovery. However, life was seldom threatened, recovery was all but certain and no headlines were made when published studies indicated that Protamide could usually reduce these weeks to as many days.

Nevertheless a quiet revolution has taken place in this small province of medicine. Protamide is not indicated in mechanical nerve trauma. But when the nerve root is inflamed as, typically, after a virus infection or in herpes zoster, Protamide may be considered as the treatment of choice.[1-4]

START PROTAMIDE EARLY—When treatment is begun within a week after onset of symptoms, two or three injections of Protamide bring not only relief from pain but prompt recovery in almost all patients. In cases not seen early, therapy must of necessity be longer.

PROTAMIDE®—an exclusive colloidal solution of processed and denatured enzyme—is *not* foreign protein therapy.

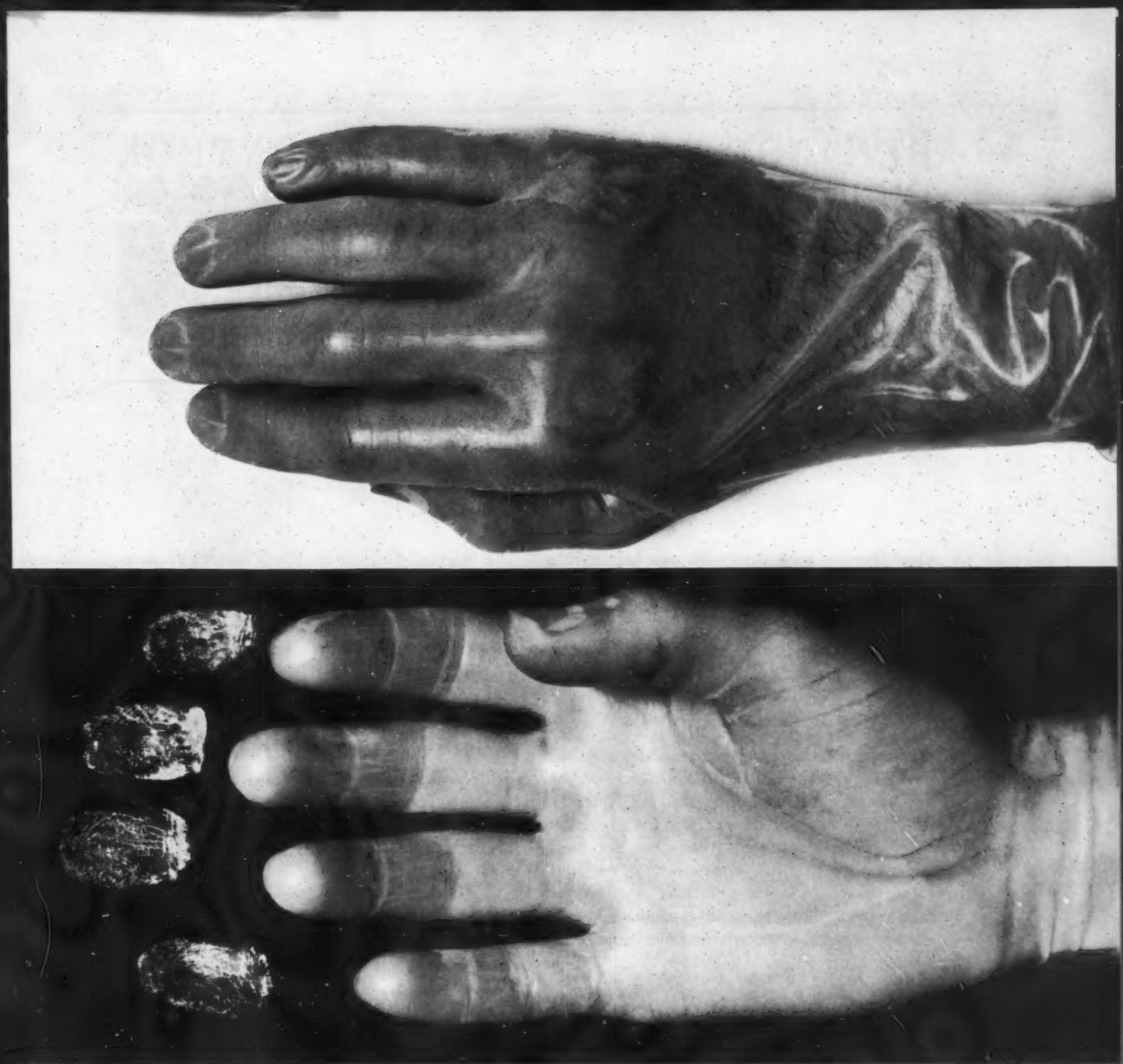
Boxes of 10 ampuls, 1.3 cc. each, for intramuscular injection.

FOR DETAILED INFORMATION WRITE MEDICAL DEPARTMENT OF

Sherman Laboratories

DETROIT 11, MICHIGAN

1. Baker, A. G.: Penn. Med. J. *63*:697 (May) 1960. 2. Sforzolini, G. S.: Arch. Ophthal. *62*:381 (Sept.) 1959. 3. Smith R. T.: Med. Clin. N. Amer. (Mar.) 1957. 4. Lehrer, H. W.; Lehrer, H. G., and Lehrer, D. R.: Northw. Med. (Nov.) 1955.



Fingerprints through an examination glove?

Yes...it actually can be done! Such sensitivity is yours for the first time in the new **WILSON TRU-TOUCH*** Disposable Vinyl Examination Glove - the most sensitive finger-tips next to your own. Non-constricting ...seam-free construction. In a marketing study, more physicians preferred Tru-Touch to conventional examination gloves. A product of **BECTON, DICKINSON AND COMPANY, RUTHERFORD, N. J.**

*WILSON AND TRU-TOUCH—TRADEMARKS

84761

BECAUSE POOR DIABETIC CONTROL INCREASES THE THREAT OF VASCULAR COMPLICATIONS IN DIABETES[1,2]... CONSIDER DIABINESE FIRST FOR ADEQUATE AND CONTINUOUS ORAL CONTROL

Oral therapy with DIABINESE can help assure more adequate blood-sugar control in many maturity-onset diabetics, including certain patients now poorly controlled by diet alone, some patients on insulin, and many who escape control on previous oral therapy.

Diabinese and diet

In patients with maturity-onset diabetes whose blood sugar remains elevated despite weight and/or caloric control, DIABINESE is frequently effective in doses of 100 to 250 mg. a day. Further, unlike insulin, DIABINESE has not been reported to increase appetite, and residual capacity for endogenous beta cell activity is stimulated. Thus, DIABINESE combined with dietary regulation will often ensure more satisfactory control than "diet alone."

Diabinese and the insulin patient

DIABINESE has proved to be an effective replacement for insulin among maturity-onset patients needing 40 units or less per day. This application of DIABINESE is especially valuable in patients who should not be exposed to the hazards and inconvenience of self-administered injection—those with poor eyesight, the infirm and elderly, and the emotionally disturbed. Transfer from insulin to DIABINESE in proper dosage lessens the risk of hypoglycemia, and may enable certain patients to resume occupations where insulin shock is considered dangerous.

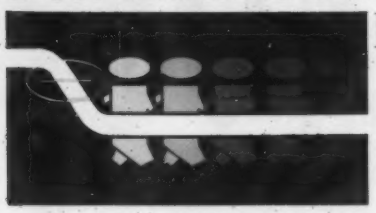
In selected patients in whom insulin requirements have become quite high, combined therapy with DIABINESE sometimes permits reduction of insulin dosage and helps to improve control.[3] Patients with insulin resistance may sometimes be similarly helped by replacement of part of the daily insulin dosage.[4]

Diabinese from the start

Continuous control in suitable candidates for sulfonylurea therapy is more likely to be achieved with DIABINESE. According to the A.M.A. Council on Drugs,[5] observations indicate that "on an equivalent dose and blood level basis, chlorpropamide has a somewhat greater therapeutic effect than has tolbutamide." This therapeutic superiority is reflected in the results of clinical observations like those of Fineberg,[6] who compared the effect of DIABINESE in 50 patients with the effect of tolbutamide in 35 patients. He concluded that "chlorpropamide produced satisfactory control of the diabetes in almost twice as great a percentage (76 versus 43 per cent) of patients than did tolbutamide, and excellent control in more than twice as great a percentage (74 versus 31 per cent)."

1. Johnsson, S.: Diabetes 9:1, 1960. 2. El Mahallawy, M. N., and Sabour, M. S.: J.A.M.A. 173:1783, 1960. 3. Editorial: Brit. M. J. 1:188, 1961. 4. Duncan, L. J. P., and Baird, J. D.: Pharmacol. Rev. 12:91, 1960. 5. A.M.A. Council on Drugs: New and Nonofficial Drugs, 1961, Philadelphia, Lippincott, 1961, p. 657. 6. Fineberg, S. K.: J. Am. Geriat. Soc. 8:441, 1960.

FOR MAXIMUM ASSURANCE OF CONTINUOUS BLOOD-SUGAR CONTROL



Diabinese®

BRAND OF CHLORPROPAMIDE

the oral antidiabetic most likely to succeed

economical once-a-day dosage

IN BRIEF

DIABINESE, a potent sulfonylurea, provides smooth, long-lasting control of blood sugar permitting economy and simplicity of low, once-a-day dosage. Moreover, DIABINESE often works where other agents have failed to give satisfactory control.

INDICATIONS: Uncomplicated diabetes mellitus of stable, mild or moderately severe nonketotic, maturity-onset type. Certain "brittle" patients may be helped to smoother control with reduced insulin requirements.

ADMINISTRATION AND DOSAGE: Familiarity with criteria for patient selection, continued close medical supervision, and observance by the patient of good dietary and hygienic habits are essential.

Like insulin, DIABINESE dosage must be regulated to individual patient requirements. Average maintenance dosage is 100-500 mg. daily. For most patients the recommended starting dose is 250 mg. given once daily. Geriatric patients should be started on 100-125 mg. daily. A priming dose is not necessary and should not be used; most patients should be maintained on 500 mg. or less daily. Maintenance dosage above 750 mg. should be avoided. Before initiating therapy, consult complete dosage information.

SIDE EFFECTS: In the main, side effects, e.g., hypoglycemia, gastrointestinal intolerance, and neurologic reactions, are related to dosage. They are not encountered frequently on presently recommended low dosage. There have been, however, occasional cases of jaundice and skin eruptions primarily due to drug sensitivity; other side effects which may be idiosyncratic are occasional diarrhea (sometimes sanguineous) and hematologic reactions. Since sensitivity reactions usually occur within the first six weeks of therapy, a time when the patient is under very close supervision, they may be readily detected. Should sensitivity reactions be detected, DIABINESE should be discontinued.

PRECAUTIONS AND CONTRAINDICATIONS: If hypoglycemia is encountered, the patient must be observed and treated continuously as necessary, usually 3-5 days, since DIABINESE is not significantly metabolized and is excreted slowly. DIABINESE as the sole agent is not indicated in juvenile diabetes mellitus and unstable or severely "brittle" diabetes mellitus of the adult type. Contraindicated in patients with hepatic dysfunction and in diabetes complicated by ketosis, acidosis, diabetic coma, fever, severe trauma, gangrene, Raynaud's disease, or severe impairment of renal or thyroid function. DIABINESE may prolong the activity of barbiturates. An effect like that of disulfiram has been noted when patients on DIABINESE drink alcoholic beverages.

SUPPLIED: As 100 mg. and 250 mg. scored chlorpropamide tablets.

More detailed professional information available on request.

Science for the world's well-being® Pfizer

PFIZER LABORATORIES
Division, Chas. Pfizer & Co., Inc. New York 17, New York

THERAPEUTIC INDEX

"Thiosulfil" Forte 0.5 Gm. Tablet

BRAND OF SULFAMETHIZOLE

"THIOSULFIL" has been found effective against the following urinary pathogens: **Proteus vulgaris, Pseudomonas aeruginosa, Escherichia coli, Streptococcus fecalis, Escherichia intermedium,** and **Aerobacter aerogenes.** In individual cases, sensitivity of the organisms may vary. Sensitivity tests, preferably by the tube dilution method, should be done first, for guidance as to alternate therapy in case "THIOSULFIL" FORTE does not control the infection.

INDICATIONS: Treatment of cystitis, urethritis, pyelitis, pyelonephritis, and prostatitis due to bacterial infection amenable to sulfonamide therapy; prior to and following genitourinary surgery and instrumentation; prophylactically, in patients with indwelling catheters, ureterostomies, urinary stasis, and cord bladders.

SUGGESTED RANGE OF DOSAGE: Adults: 1 or 2 tablets (0.5 Gm.-1.0 Gm.) three or four times daily.

WARNING: Due to the high solubility in body fluids of "THIOSULFIL" and its acetyl form, the hazards of renal tubule obstruction are minimized. The usual precautions exercised with sulfa drugs generally should, however, be observed. In those rare instances where exanthemata, urticaria, nausea, emesis, fever or hematuria, are encountered, administration should be discontinued.

CONTRAINDICATION: A history of sulfonamide sensitivity.

SUPPLIED: NO. 786—"THIOSULFIL" FORTE—Each tablet contains sulfamethizole 0.5 Gm. (scored), in bottles of 100 and 1,000.

ALSO AVAILABLE—**NO. 785: "THIOSULFIL"**—Each tablet contains sulfamethizole 0.25 Gm. (scored), in bottles of 100 and 1,000. No. 914—"THIOSULFIL" Suspension—Each 5 cc. (teaspoonful) contains sulfamethizole 0.25 Gm., in bottles of 4 and 16 fluidounces.

SUGGESTED DOSAGES: **Infants and children:** The dosage is scheduled on an average basis of ½ to ¾ gr. (30 to 45 mg.) per pound of body weight per day in divided doses. Maximum dosage up to 50 lbs., ½ teaspoonful q.i.d. Maximum dosage from 50 to 75 lbs., 1 teaspoonful q.i.d.

WHEN ANALGESIA IS DESIRED

"THIOSULFIL"-A FORTE NO. 783:

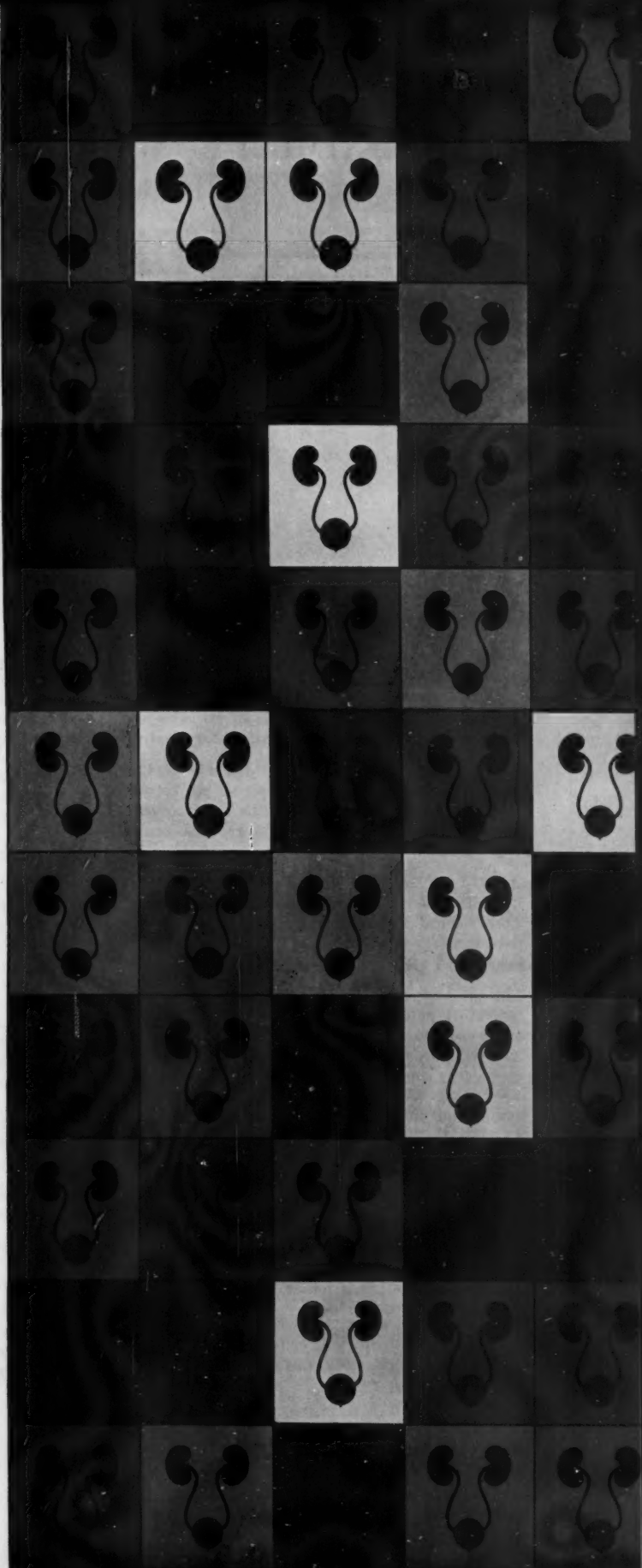
Each tablet contains sulfamethizole 0.5 Gm., and phenylazo-diamino-pyridine HCl 50.0 mg., in bottles of 100 and 1,000.

CONTRAINDICATIONS: (1) a history of sulfonamide sensitivity and (2) due to the phenylazo-diamino-pyridine HCl component, renal and hepatic failure, glomerulonephritis, and pyelonephritis of pregnancy with gastrointestinal disturbances.

USUAL DOSAGE: Adults: 2 tablets, four times daily. **Children** (9 to 12 years): 1 tablet, four times daily.

ALSO AVAILABLE: **NO. 784 "THIOSULFIL"—A**—Each tablet contains sulfamethizole 0.25 Gm., and phenylazo-diamino-pyridine HCl 50.0 mg., in bottles of 100 and 1,000. USUAL DOSAGE: **Adults:** 2 tablets, four times daily. **Children** (9 to 12 years): 1 tablet, four times daily.

For references, see opposite page.



SAFELY MANAGES ALL EPISODES OF URINARY TRACT INFECTION

"Thiosulfil"® Forte 0.5 Gm. Tablet

(BRAND OF SULFAMETHIZOLE)

THE ONE SULFONAMIDE THAT OFFERS

- Maximum urinary concentration of active, free sulfa at site of infection
- Rapid clearance (noncumulative)
- Rare incidence of side effects
- High degree of clinical effectiveness

"Thiosulfil" dosage schedules reported in the literature.

INITIAL EPISODE (Acute Infection) 3 Gm./day[1]

Based on 7 years' clinical experience in treating 3,057 cases of upper and lower urinary tract infection, Bourque[1] found 3 Gm./day for 2 weeks (the average dosage employed in 97 per cent of patients) effective in most cases.

RECURRING EPISODE (Flare-up) 3 Gm./day[1]

Same dosage as above. When longer therapy is required as in cases where there is stasis due to obstruction, administration may be continued at a lower dosage range.

CONTINUING EPISODE (Stasis/Obstruction) 2 Gm./day[2,3] 0.5 Gm./day[4]

Where infection remains latent due to causes which cannot be eliminated as in paraplegia, patients have been maintained symptom-free on dosage regimens ranging from 2 Gm. to 0.5 Gm./day. After initial control of acute symptoms, therapy may be continued indefinitely on a low dosage basis to guard against recurrence and prevent ascending infection. Many cases can be controlled with as little as 0.5 Gm./day.

SUPPLIED: No. 786 — "Thiosulfil" Forte — Each tablet contains sulfamethizole 0.5 Gm. (scored), in bottles of 100 and 1,000.

ALSO AVAILABLE — In urinary tract infection—to alleviate pain and control the infection: No. 783 — **"THIOSULFIL"®-A FORTE** combines the sulfonamide specific for urinary tract infection with a potent analgesic for prompt, soothing relief of local discomfort. Each tablet contains sulfamethizole 0.5 Gm. and phenylazo-diamino-pyridine HCl 50 mg., in bottles of 100 and 1,000 tablets.

References: 1. Bourque, J.-P., and Gauthier, G-E.: L'Union Medicale **89**:840 (May) 1960. 2. Cottrell, T. L. C., Rolnick, D., and Lloyd, F. A.: Rocky Mountain M. J. **56**:66 (Mar.) 1959. 3. Bourque, J.-P., and Joyal, J.: Canad. M.A.J. **68**:337 (Apr.) 1953. 4. Hughes, J., Coppridge, W. M., and Roberts, L. C.: North Carolina M. J. **17**:320 (July) 1956.

Ayerst Laboratories

New York, N. Y. • Montreal, Canada

6124

Modern Medicinals

Continued from page 83a

Furacin-HC Urethral Suppositories, Eaton

INDICATIONS: For use following urethral instrumentation or surgery to decrease inflammation and formation of fibrotic strictures, following dilation of urethral strictures, and to decrease infectious inflammation as in urethrotrigonitis in women.

DESCRIPTION: Each 1.3 gm. suppository contains Furacin 0.2%, hydrocortisone acetate 1%, and diperodon-HCl in a water-dispersible base which melts at body temperature.

DOSAGE: Administered from two, or three, times daily for four days, to several times weekly.

SUPPLY: Box of twelve.

Monase, Upjohn

INDICATIONS: For use in a variety of psychiatric and medical conditions in which mental depression is prominent and for which mood elevation and psychomotor stimulation are considered beneficial.

DESCRIPTION: Each tablet contains etryptamine acetate, 15 mg.

DOSAGE: 30 mg. daily in divided doses. Adjustment of dose to individual response should be effected in increments or decrements of 15 mg. daily at weekly intervals. In schizophrenics, the daily dose is 30 mg.

SUPPLY: Bottles of one hundred.

Mulvidren Drops, Stuart

INDICATIONS: To provide vitamins needed for modern infant feeding.

DESCRIPTION: Contains vitamin A (palmitate), 3,000 USP Units; D (activated ergosterol), 400 USP units; C (ascorbic acid and sodium ascorbate), 60 mg.; B_1 (thiamine HCl), 1 mg.; B_2, (riboflavin phosphate sodium), 1.2 mg.; B_6 (pyridoxine HCl), 0.5 mg.; B_{12} (cobalamin concentrate), 1 mcg; Niacinamide, 10 mg.

DOSAGE: Infants: 0.3 cc.—approximately eight drops (lower mark on dropper). Children: 0.6 cc.—approximately sixteen drops (upper mark on dropper); or as indicated.

SUPPLY: Bottles of thirty cc. liquid.

Mytrate Ophthalmic Solution,
Professional Pharmacal

INDICATIONS: For the treatment of glaucoma.

DESCRIPTION: A solution of l-Epinephrine Bitartrate 2% in a buffered Methylose base.

DOSAGE: One, or two, drops as directed by physician.

SUPPLY: Fifteen cc. dropper bottles.

Neosporin Aerosol, Burroughs Wellcome

INDICATIONS: To combat superficial bacterial infections of the skin due to susceptible organisms and those infections that occur in association with burns, skin grafts and donor sites, biopsy sites, lacerations, dermabrasion, vascular ulcers, decubitus ulcers, infected eczemas, infected dermatoses, cuts, and abrasions.

DESCRIPTION: Contains Aerosporin brand Polymyxin B Sulfate,—100,000 units; zinc bacitracin, 8,000 units; neomycin sulfate, 100 mg.; inert propellant, Dichlorodifluoromethane and Trichloromonofluoromethane.

DOSAGE: Shake well before using and between sprays. Spray affected area. Use one second intermittent sprays from a distance of about eight inches.

SUPPLY: Ninety-Gm. Aerosol spray can.

No-Derm, Lemmon Pharmacal

INDICATIONS: To help prevent and control infection in minor cuts and abrasions. To provide temporary relief of discomfort due to minor burns, sunburn, chapped skin and minor skin irritations.

DESCRIPTION: Contains neomycin, 3.5 mg.; Diperodon HCl, 1%; aluminum dihydroxy allantoinate, 0.75%.

DOSAGE: Apply three or four times daily with gentle rubbing.

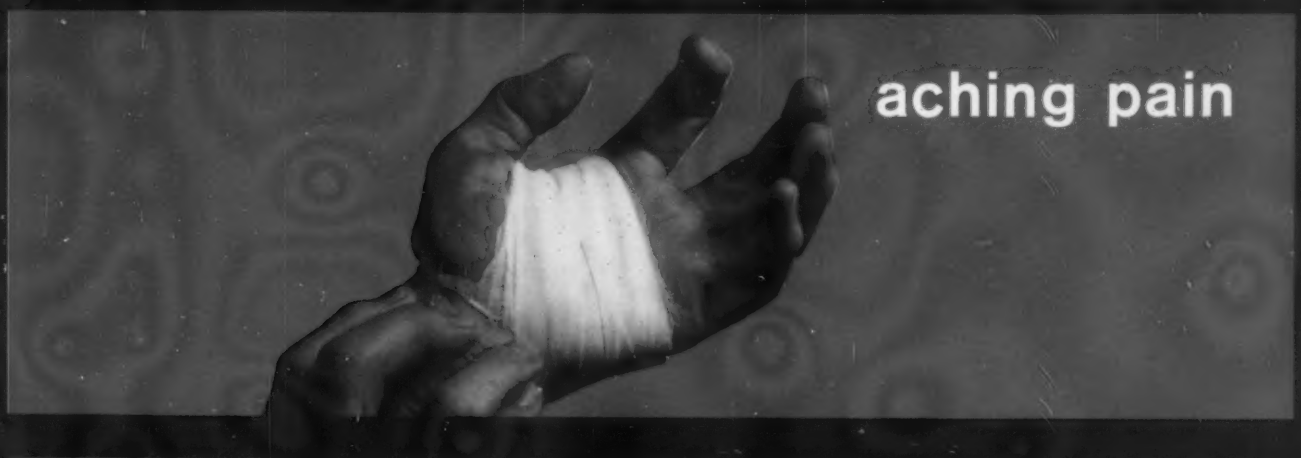
SUPPLY: Thirty ml. bottle.

Optihist Ophthalmic Drops, Crookes-Barnes

INDICATIONS: For various infections of the eye, such as inflammation, pink eye, and soreness from colds.

DESCRIPTION: Contains chlorpheniramine maleate 0.3%, piperocaine HCl 0.5%, Phenylephrine HCl 0.08%, and methylcellulose 0.5% in a sterile ophthalmic solution.

Concluded on page 96a



a Wyeth analgesic
for each level of pain

when **anxiety and tension**

aggravate pain

TABLETS

Equagesic®

EQUANIL® (Meprobamate, Wyeth) and ZACTIRIN®
(Ethoheptazine Citrate with Acetylsalicylic Acid, Wyeth)

Relieves pain, relaxes mind and muscle

- analgesic action to relieve pain
- calming action to relieve anxiety
- muscle-relaxant action to relieve spasm and tension

EQUAGESIC RELIEVES PAIN AND ANXIETY

For your patients suffering pain accompanied by anxiety and tension, EQUAGESIC provides gratifying relief. Potent, non-narcotic analgesia is provided by a combination of the potent analgesic, ethoheptazine citrate, with time-proved aspirin. The muscle-relaxant and anti-anxiety effects of meprobamate, coupled with the analgesic agents provide *analgesia in depth.*

These effective agents relieve the painful anxiety and tension of patients suffering from strains, sprains, muscle tension and other musculoskeletal conditions. The comforting pain relief afforded by EQUAGESIC is rarely hampered by side effects.[1,2]

Satisfactory Pain Relief in 97% of patients with painful musculoskeletal conditions. In a study[1] of 106 patients suffering musculoskeletal pain associated with anxiety and muscle spasm, EQUAGESIC ". . . was extraordinarily effective, satisfactory results being obtained in 97% of the patients treated." EQUAGESIC provided effective pain relief for these conditions:

osteoarthritis • bursitis • low back syndrome
tenosynovitis • whiplash injuries • fractures of small bones • tension headache

Gratifying Pain Relief in 74% of patients with painful ligament sprains. In a study[2] of 104 ambulatory cases of acute cervical or lumbar muscle ligament sprain treated with EQUAGESIC, ". . . control of acute pain was obtained in 74% of the cases." The conditions treated occurred in typical office patients with pain following injuries to the cervical and/or lumbar spine. The author concluded ". . . EQUAGESIC (Wyeth) is a satisfactory and useful additional tool in the care of the acute injuries due to muscle ligament sprain. . . ."

1. Splitter, S.R.: Current Therapeutic Research *2*:169 (June) 1960. 2. Harsha, W.N.: J. Okla. State Med. Assoc. *54*:12 (Jan.) 1961.

For further information on limitations, administration and prescribing of EQUAGESIC, see descriptive literature or current Direction Circular.

Wyeth Laboratories • Philadelphia 1, Pa.

Wyeth®

relieves the **agony** of severe pain

Meperidine

HYDROCHLORIDE

TUBEX®

Closed Injection System, Wyeth

three beneficial actions in medical and surgical pain

• analgesic • spasmolytic • sedative

plus all the advantages of TUBEX

- eliminates risk of transmitting serum hepatitis or other infections
- ready for immediate use, reduces time and labor
- new sharp sterile needle each time
- premeasured single-dose units assure dosage accuracy

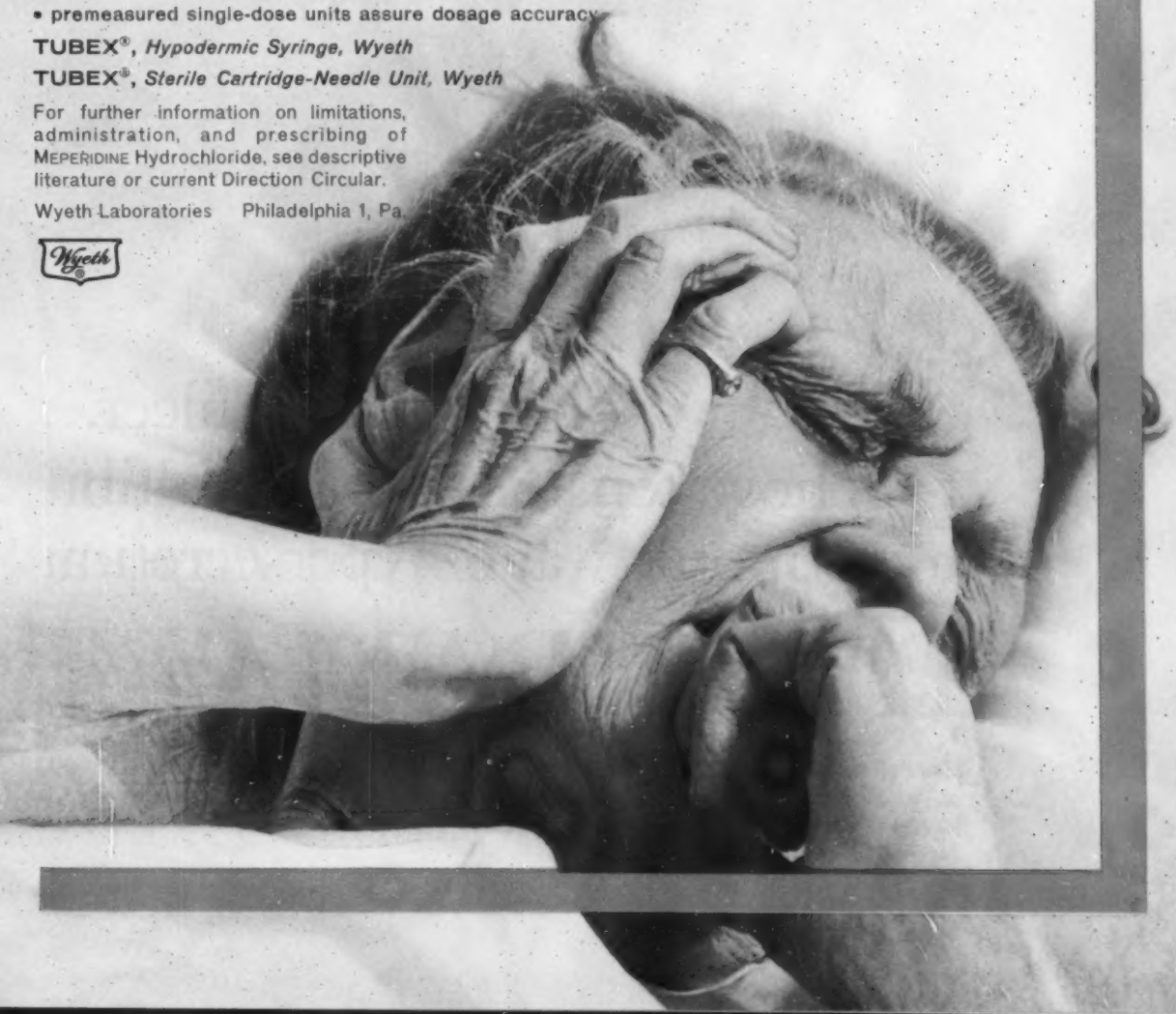
TUBEX®, *Hypodermic Syringe, Wyeth*

TUBEX®, *Sterile Cartridge-Needle Unit, Wyeth*

For further information on limitations, administration, and prescribing of MEPERIDINE Hydrochloride, see descriptive literature or current Direction Circular.

Wyeth Laboratories Philadelphia 1, Pa.

Wyeth

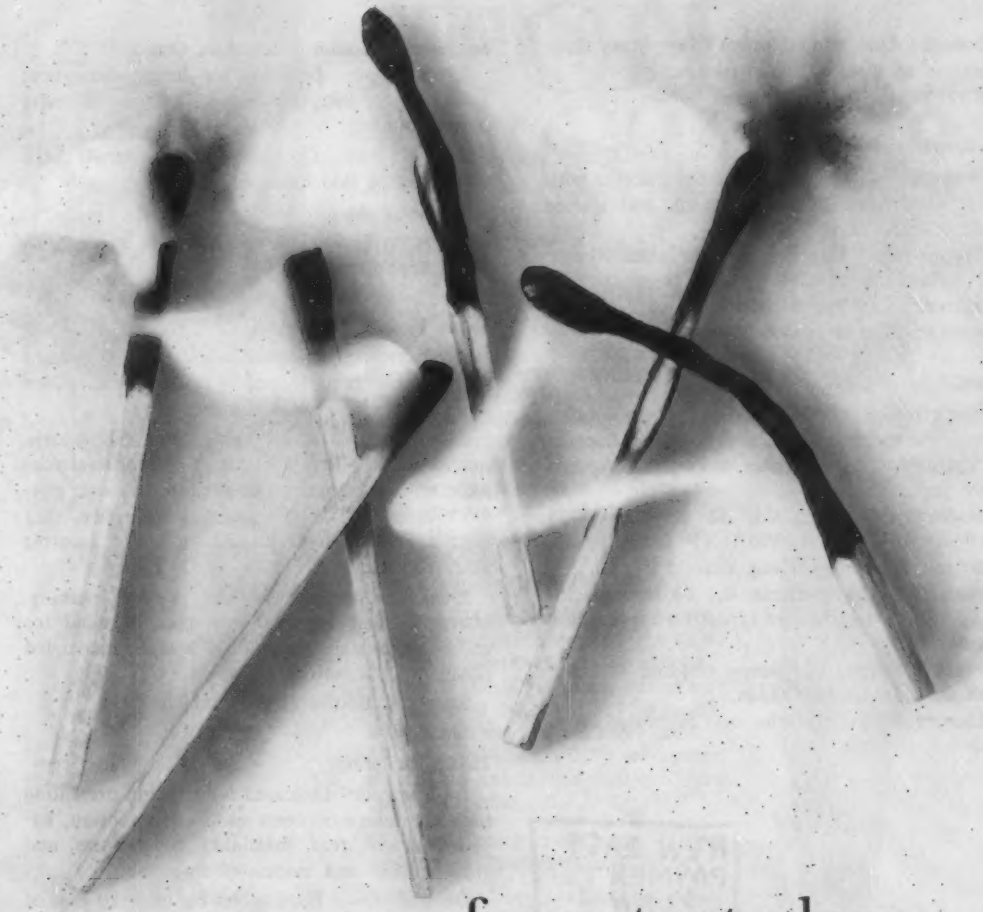


for potential ulcer...
to relieve tensions and to inhibit
hypermotility and hypersecretion

PATHIBAMATE®

PATHILON® tridihexethyl chloride Lederle with meprobamate

highly effective with minimal side effects for therapeutic/prophylactic treatment of duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis with gastrointestinal symptoms, gastric hypermotility. PATHIBAMATE-400 (full meprobamate effect)—1 tablet t.i.d. at mealtime, and 2 tablets at bedtime · PATHIBAMATE-200 (limited



for patent ulcer...
to relieve tensions and to inhibit
hypermotility and hypersecretion

PATHIBAMATE®

meprobamate effect)—1 or 2 tablets t.i.d. at mealtime, and 2 tablets at bedtime · Adjust to patient response. CONTRAINDICATIONS: glaucoma; pyloric obstruction; obstruction of the urinary bladder neck. Request complete information on indications, dosage, precautions and contraindications from your Lederle representative or write to Medical Advisory Department.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Concluded from page 90a

DOSAGE: One, or two, drops in eye every three hours, or as directed by physician.

SUPPLY: Fifteen cc. dropper bottles.

Pro-Banthine P.A., Searle

INDICATIONS: Anticholinergic for patients with peptic ulcer, gastritis, pylorospasm, and spastic or irritable colon.

DESCRIPTION: Contains in each tablet 30 mg. of Pro-Banthine.

DOSAGE: Two tablets daily.

SUPPLY: Bottles of one hundred.

Quanti-Vite (F) Pediatric Drops, Hoyt

INDICATIONS: For simultaneous administration of pediatric multiple vitamins and sodium fluoride for nutritional support plus prophylaxis against future dental caries.

DESCRIPTION: Each 0.6 ml. provides 3000 U.S.P. units vitamin A, 400 U.S.P. units vitamin D, 60 mg. vitamin C, 1 mg. vitamin B_1, 1.2 mg. vitamin B_2, 1 mg. vitamin B_6, 10 mg. niacinamide and 0.5 mg. fluorine (from 1.1 mg. sodium fluoride).

DOSAGE: Infants and young children—0.6 ml. undiluted or mixed with fluids.

SUPPLY: Fifty-ml. bottles with calibrated droppers.

Sporostacin Lotion & Solution, Ortho

INDICATIONS: *Lotion* — for fungal dermatitis; *Solution*—for fungal infections of the nails and paronychia.

DESCRIPTION: Contains 5-(1-ethylamyl)-3-trichloromethyl thio hydantoin.

DOSAGE: As directed by physician.

SUPPLY: *Lotion,* 60 cc.; *Solution,* 30 cc. with brush applicator.

Tacol Tablets, Massengill

INDICATIONS: To provide relief of symptoms associated with the common cold, such as minor pain, coughs and nasal congestion.

DESCRIPTION: Each tablet contains dextromethorphan HBr, 15 mg.; chlorpheniramine maleate, 2 mg.; pyrilamine maleate, 12 mg.; phyenylephrine HCl, 10 mg.; acetaminophen, 325 mg.; caffeine anhydrous, 20 mg.; and ascorbic acid, 100 mg.

DOSAGE: Administered t.i.d. in the morning, afternoon, and evening. Not recommended for children under six years of age and recommended dosage should not be exceeded.

SUPPLY: Bottles of fifty tablets.

Tindal, Schering

INDICATIONS: Indicated for patients presenting such common symptoms as anxiety, tension, hyperexcitement, fear, irritability, nervousness, and apprehension and associated insomnia.

DESCRIPTION: Each tablet contains 20 mg. of acetophenazine dimaleate.

DOSAGE: Dosage should be adjusted for each patient according to the intensity and type of target symptoms.

SUPPLY: Bottles of one hundred and one thousand tablets.

Tolferain, B. F. Ascher

INDICATIONS: Hematinic.

DESCRIPTION: Contains ferrous fumarate, 300 mg. (provides elemental iron 100 mg.).

DOSAGE: One tablet a day. In severe anemic states, dosage may be increased to two tablets a day.

SUPPLY: Bottles of one hundred and one thousand tablets.

ENDS ITCH FAST

ORAL ALLERCUR REACHES THE SKIN IN 10 MINUTES[1] FOR PROLONGED RELIEF

Allercur is the systemic answer to a dermatology problem. This single agent provides fast, prolonged relief of itching, both allergic and nonallergic, with only 2 to 4 tablets daily —without timed-release devices. Drowsiness and other side effects are of low degree. Unlike topical preparations, Allercur frees the patient of messy, inconvenient local application. Many risks of systemic phenothiazine and glucocorticoid therapy are decreased.

Effective: "An excellent or good antipruritic response occurred in 69 patients (79.5%). No toxic reactions occurred and there were virtually no side effects. Particularly notable were the absence of drowsiness and the rapidity with which the remission of itching occurred."[2] Allercur is also effective in the management of conditions such as nasal allergy, including seasonal hay fever.

CAUTION: If drowsiness occurs, patients should avoid activities demanding alertness.

AVERAGE DOSE: 2 to 4 tablets daily in divided doses.

SUPPLIED: Tan, scored tablets, each containing 20 mg. clemizole HCl, in bottles of 100.

REFERENCES: 1. Kimmig, J.: Hautarzt 3:414 (Sept.) 1952. 2. Butler, P.G.: Western Med. 1:16 (Nov.) 1960. Bibliography on request.

Roerig

New York 17, N. Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being®

when allergies occur Rx

ALLERCUR

(clemizole HCl)

*Reg. T. M., Schering, A. G., Berlin

YOUR UNRESPONSIVE "ARTHRITIC" MAY BE SUFFERING FROM CHRONIC GOUTY ARTHRITIS

At least 5 per cent of all patients suffering from arthritis really have gouty arthritis.[1] Although frequently overlooked,[2] gouty arthritis is readily diagnosed if one remembers this possibility in all patients with chronic joint distress. Elevated serum uric acid levels, pain relief with colchicine and occurrence of tophi are valuable diagnostic aids. Once clinically confirmed, chronic gouty arthritis responds successfully to TRIURATE.®

TRIURATE combines in **one** tablet three effective agents for the management of gouty arthritis: FLEXIN® Zoxazolamine,* a potent uricosuric agent; Colchicine, for preventing acute attacks; and TYLENOL® Acetaminophen, the effective analgesic which does not interfere with uricosuric action. Thus, TRIURATE promptly relieves chronic discomfort, prevents acute flare-ups, reduces tophi, and prevents formation of new deposits.

TRIURATE

the full-range therapy for gouty arthritis and chronic gout

Average Dose: One tablet three times a day after meals. **Supplied:** Beige, scored tablets, imprinted McNEIL, bottles of 50. Each tablet contains: FLEXIN® Zoxazolamine® 100 mg., Colchicine 0.5 mg., and TYLENOL® Acetaminophen 300 mg.

(1) Boland, E. W.: World-Wide Abstr. Gen. Med. **3**:11, 1960. (2) Lockie, L. M.: Am. J. Orthopedics **2**:252, 1960.

*U.S. Patent No. 2,890,985

McNEIL LABORATORIES, INC · FORT WASHINGTON, PA. McNEIL

Lifts depression....

You see an improvement within a few days
Thanks to your prompt treatment and the smooth action of Deprol, her depression is relieved and her anxiety and tension calmed – *often in a few days.* She eats well, sleeps well and soon returns to her normal activities.

as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety... rapidly and safely

Balances the mood – no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient *–they often aggravate anxiety and tension.*

And although amphetamine-barbiturate combinations may counteract excessive stimulation–*they often deepen depression.*

In contrast to such "seesaw" effects, Deprol's smooth, *balanced* action lifts depression as it calms anxiety–both at the same time.

Acts swiftly – the patient often feels better, sleeps better, within a few days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly – often within a few days. Thus, the expense to the patient of long-term drug therapy can be avoided.

Acts safely – no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function–frequently reported with other antidepressant drugs.

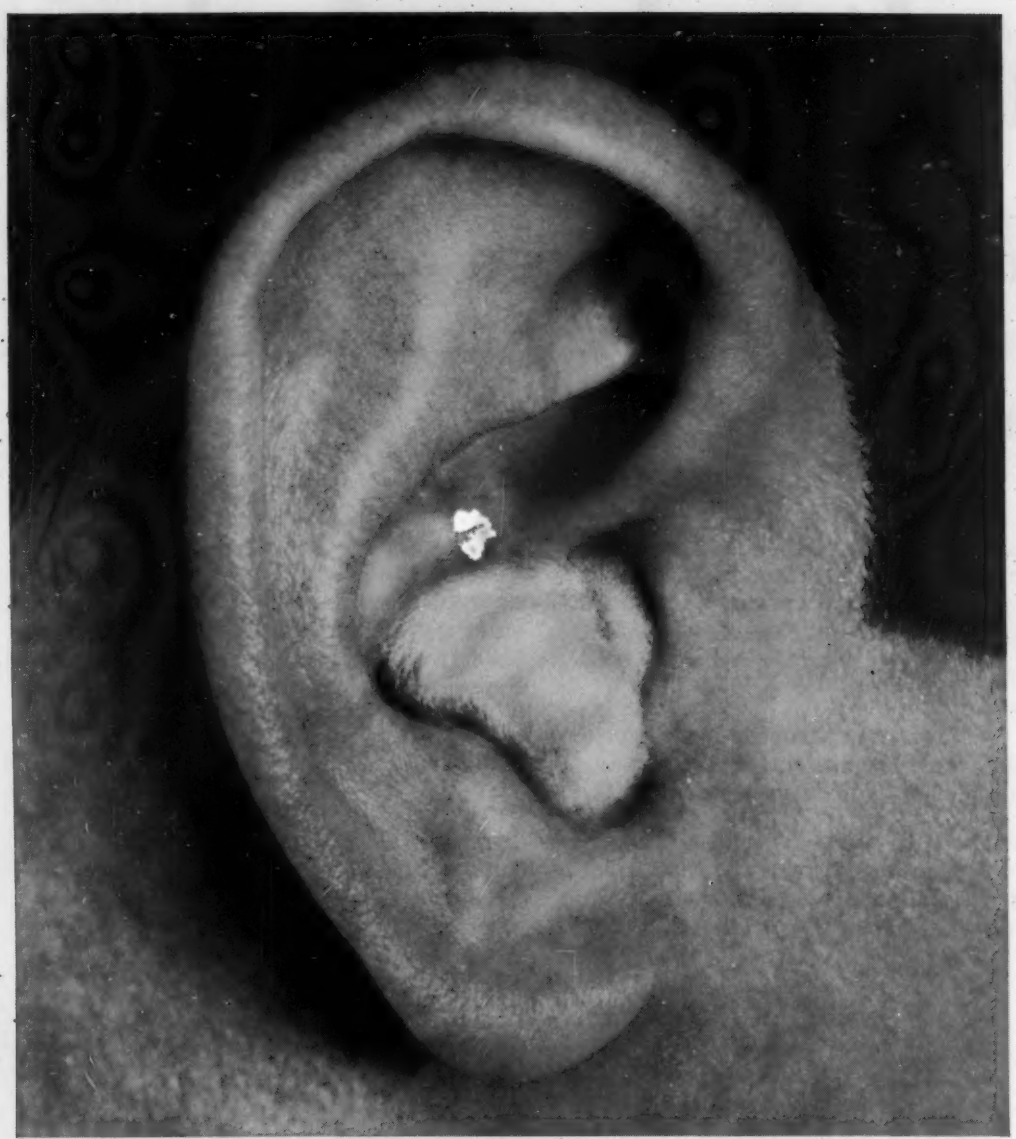
Bibliography *(13 clinical studies, 858 patients)*: **1.** Alexander, L. (35 patients): Chemotherapy of depression – Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A. 166:1019, March 1, 1958. **2.** Bateman, J. C. and Carlton, H. N. (50 patients): Meprobamate and benactyzine hydrochloride (Deprol) as adjunctive therapy for patients with advanced cancer. Antibiotic Med. & Clin. Therapy 6:648, Nov. 1959. **3.** Beerman, H. M. (44 patients): The treatment of depression with meprobamate and benactyzine hydrochloride. Western Med. 1:10, March 1960. **4.** Ball, J. L., Tauber, H., Santy, A. and Pulito, F. (77 patients): Treatment of depressive states in office practice. Dis. Nerv. System 20:263, June 1959. **5.** Breitner, C. (31 patients): On mental depressions. Dis. Nerv. System 20:142, (Section Two), May 1959. **6.** Gordon, P. E. (50 patients): Deprol in the treatment of depression. Dis. Nerv. System 21:215, April 1960. **7.** Landman, M. E. (50 patients): Clinical trial of a new antidepressive agent. J. M. Soc. New Jersey. In press, 1960. **8.** McClure, C. W., Papas, P. N., Speare, G. S., Palmer, E., Slattery, J. J., Konefal, S. H., Henken, B. S., Wood, C. A. and Ceresia, G. B. (128 patients): Treatment of depression – New technics and therapy. Am. Pract. & Digest Treat. 10:1525, Sept. 1959. **9.** Pennington, V. M. (135 patients): Meprobamate-benactyzine (Deprol) in the treatment of chronic brain syndrome, schizophrenia and senility. J. Am. Geriatrics Soc. 7:656, Aug. 1959. **10.** Rickels, K. and Ewing, J. H. (35 patients): Deprol in depressive conditions. Dis. Nerv. System 20:364, (Section One), Aug. 1959. **11.** Ruchwarger, A. (87 patients): Use of Deprol (meprobamate combined with benactyzine hydrochloride) in the office treatment of depression. M. Ann. District of Columbia 28:438, Aug. 1959. **12.** Settel, E. (52 patients): Treatment of depression in the elderly with a meprobamate-benactyzine hydrochloride combination. Antibiotic Med. & Clin. Therapy 7:28, Jan. 1960. **13.** Splitter, S. R. (84 patients): Treatment of the anxious patient in general practice. J. Clin. & Exper. Psychopath. In press, April-June 1960.

Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this dose may be gradually increased up to 3 tablets q.i.d.

Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate.
Supplied: Bottles of 50 light-pink, scored tablets. Write for literature and samples.

▲Deprol▲®

WALLACE LABORATORIES / *Cranbury, N. J.*



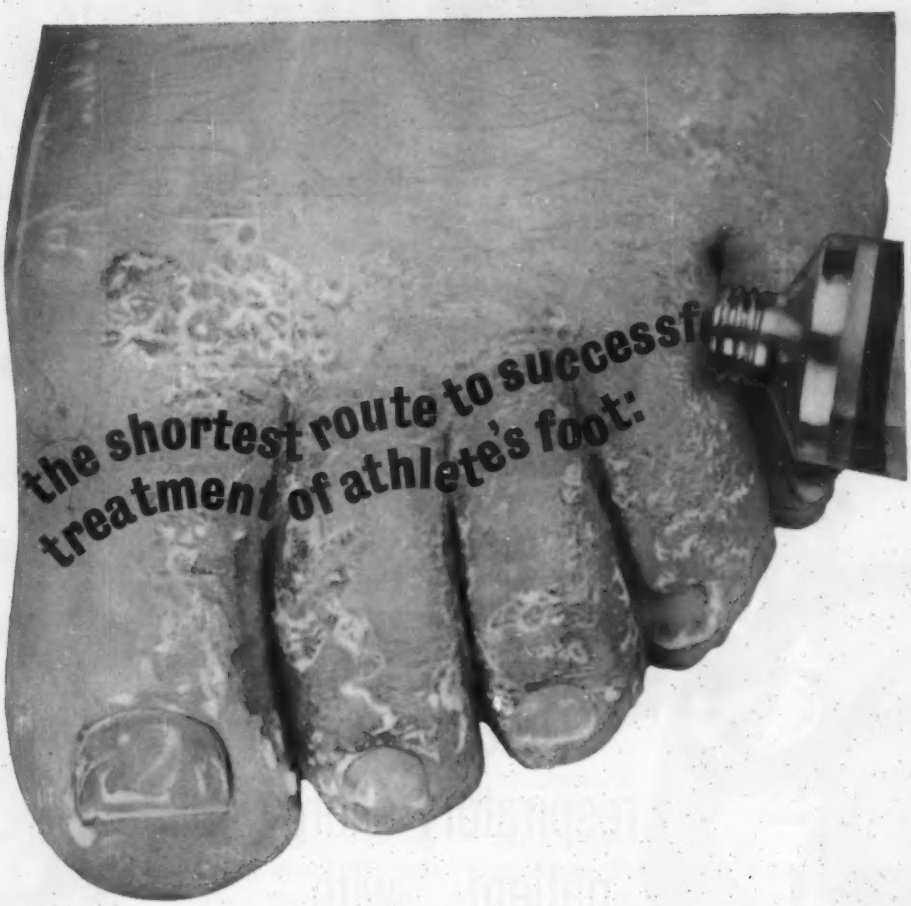
this ear is being treated with a <u>new</u> formula for otitis

acts promptly against otitis pain and pathogens
▪ antibacterial ▪ anesthetic ▪ antifungal

NEW FURACIN® OTIC
brand of nitrofurazone
(Furacin Ear Solution Improved)

FORMULA: Contains Furacin 0.2%, diperodon hydrochloride 2%, and Micofur® (nifuroxime) 0.375% dissolved in water-soluble, nonaqueous, hygroscopic polyethylene glycol. INDICATIONS: For treatment of bacterial otitis externa, otomycosis and otitis media when the eardrum is perforated. DOSAGE: Instill one-third dropperful (0.5 cc.) t.i.d. for one week, or until inflammation subsides and drainage ceases. SUPPLIED: Dropper bottle of 15 cc.

EATON LABORATORIES, Division of The Norwich Pharmacal Company, NORWICH, NEW YORK



Athlete's foot is caused by fungi invading the horny, keratinized layers of the skin not reached by the normal blood supply. Topical application of DESENEX, a combination of zinc undecylenate and undecylenic acid, brings these powerful antifungal agents into direct contact with troublesome fungi and quickly relieves—**and arrests**—the annoying condition.

Hundreds of thousands of athlete's foot infections have been arrested by topical treatment with DESENEX, among the best tolerated of all potent fungicidal agents.

And DESENEX is inexpensive—only pennies per treatment: DESENEX Ointment can be applied liberally to both feet every night for a week and a half from only a single tube. Itching and discomfort are stopped almost immediately. DESENEX is also recommended for treatment of other susceptible fungus infections of the skin and nails.

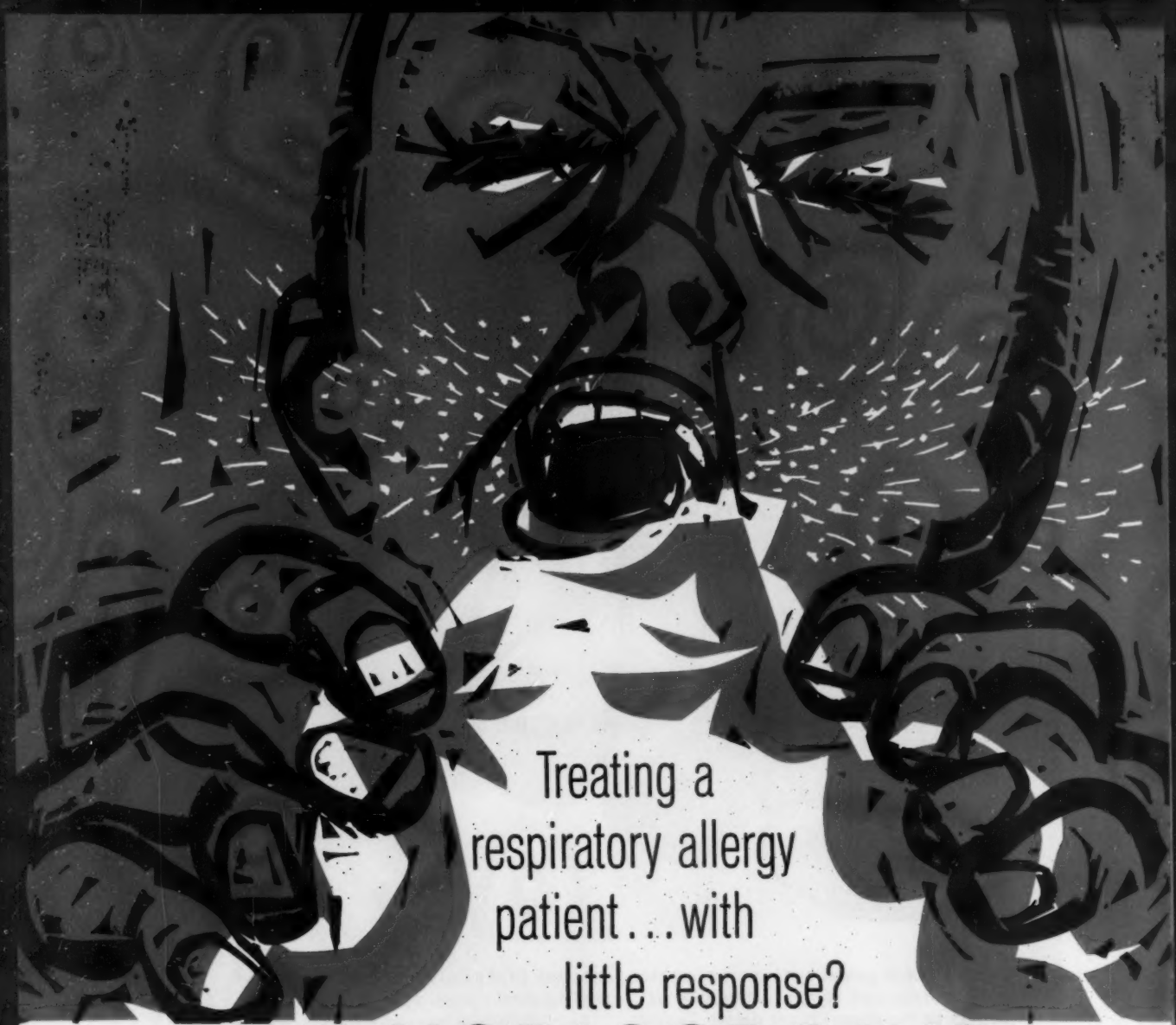
Dosage: At night, supply Ointment liberally to infected and surrounding areas. In the morning, rub or shake powder into the shoes and feet.

Supplied: Ointment—1 oz. tubes and 1 lb. jars. Powder—1½ oz. and 1 lb. containers. Solution (Undecylenic acid)—2 fl. oz. and 1 qt. bottles. Aerosol Spray—6 oz. cans.

Maltbie Laboratories Division,
Wallace & Tiernan Inc., Belleville 9, N. J.

Desenex®
ointment • spray
powder • solution

Available in Canada through Elliott-Marion Company, Ltd., Montreal. PD-11



Treating a respiratory allergy patient . . . with little response?

try NORISODRINE® syrup

(Isoproterenol Sulfate, Abbott)

with calcium iodide

You've seen the type. Racked by a chronic cough . . . or wheeze . . . or any of the other classic asthma symptoms. In any event, the usual treatment isn't affording adequate relief.

If you're faced with this kind of "problem" patient, try this: Put him on Norisodrine Syrup for two weeks—one or two teaspoonfuls, four to six times daily. See if this isn't evident:

Coughing will be more productive . . . and much less frequent. There will be a marked lessening of tension, physical and mental. Respiration will improve. Nighttime cough, particularly, will be relieved.

Good-tasting Norisodrine Syrup—a combination of Norisodrine (bronchodilator) and calcium iodide (expectorant)—can help you control symptoms in patients of all ages, even those who have been troubled for years.

ABBOTT

104239

PROFESSIONAL LIABILITY as a New Problem in the Practice of Medicine

JOSEPH F. SADUSK, Jr., M.D., Oakland, California

Some twenty-five years ago in this auditorium in the Johns Hopkins Hospital, Judge O'Dunne told us about a then famous Maryland court decision concerning the "cut-and-run" surgeon. You will remember that, a good many years ago, it was common practice for certain of the senior surgical staff at Hopkins to take a sleeper to far rural areas of Maryland, operate during the day and then return to Baltimore. The postoperative care of the patient was left to the family physician. In one such case, the patient suffered serious complications which, as the surgeon honestly testified, would not have occurred had he been present for the patient's postoperative care. The court then ruled that he was guilty of malpractice, since a surgeon was to be considered responsible for the continued care of a patient, unless he specifically contracted otherwise.

As a result of this decision, such out-of-town surgery virtually disappeared and thus was modified the practice of medicine in Maryland.

The Problem

Since this decision was handed down, much has happened to increase the liability of the physician. The problem of medical malpractice —or perhaps more correctly termed *professional liability*—began to pick up momentum during the late 1930's, increasing more rapidly in the late 1940's after World War II, and culminating in the astoundingly rapid rise during the 1950's. The malpractice hazard has increased everywhere throughout the United States, the only difference being that it is worse in some areas than others. As California leads the nation in many respects, so it does also in medical malpractice with Oregon and New York close behind and followed by Alaska, District of Columbia, Florida, Minnesota, Montana, Nevada, Washington, and Wisconsin. The problem is now such that settlements and

Presented before the Johns Hopkins Medical and Surgical Association, Baltimore, February 25, 1961.

judgments toward and in six figures are no longer a rarity. For instance, a settlement of $290,000 was made in behalf of a group clinic in California less than two years ago and very recently in New York City, a hospital, two anesthesiologists, and a surgeon settled a malpractice case out of court for $317,000—an all time high!

Now, it is clear that such excessive damages result when a patient suffers irreversible brain damage or a paraplegia. Along more general lines, our California studies — substantially confirmed by a national AMA questionnaire —show that over two-thirds of malpractice cases are surgical in nature with obstetrics and gynecology, orthopedics, and general surgery leading the field. The strict field of medical types of practice (including internal medicine, neuropsychiatry, pediatrics, and laboratory in the order named) is the next major liability hazard, accounting for slightly less than one-fifth of all claims. Here, toxic drug reactions play the major role. Next in order, and each accounting for about one-twentieth of total claims are claims for equipment injuries, x-ray and/or radium burns, and a miscellaneous group such as falls from examining tables, allegations of assault and battery, undue familiarity, and so forth.

Why the Problem?

What has led to this situation in which we look upon professional liability as a vocational hazard for the physician? The reason is not simple and is not explained by any one factor. But here are a number of factors which doubtless play significant roles.

- FIRST, scientific advances reported by the lay press have caused the public to believe that doctors are infallible; hence, if all does not go well, the patient is likely to consider that his doctor was negligent. In addition, we have had a critical press due to those economic problems connected with the practice of medicine.

- SECOND, as medicine advances with the use of potent medications and the employment of dramatic surgical procedures which advance the span of life and save patients who otherwise would die, so also do these advances increase the chances of irreparable damage to the body when complications occur. That the patient is living makes no difference to him—he is impressed, on the contrary, that the physician has damaged him and he may show his displeasure by filing a malpractice claim. For instance, the introduction of cardiac resuscitation by open or other methods has led to difficult legal problems when the patient lives but ends up with irreversible brain damage.

- THIRD, there is no doubt that the public is becoming more litigation-minded and wants to be paid for injuries, be they caused by the physician, or the automobile driver. To further this aim, attorneys have brought to a high degree of perfection those trial methods which convince a jury that the plaintiff is deserving of what is called an adequate award.

- FOURTH, and perhaps one of the most important factors, is the orientation of the courts toward the plaintiff leading to the construction of doctrines in his favor. Such doctrines are responsible for our present trend toward *liability without fault*. In other words, if a person is injured, the changing philosophy of the courts leads to the concept that society should pay for his injuries, such as is done for the worker under the Workmans Compensation Act.

What is the Effect on Practice?

Now, what has happened in the courts during the past decade and how does this affect our practice of medicine?

Probably the most important change is the extension of the *res ipsa loquitur* doctrine. A century or so ago, a barrel rolled out the window of a brewery in London and struck a passerby.

In giving his decision, the judge said, "res ipsa loquitur"—the thing speaks for itself. In other words, the passerby had no control of the barrel and someone in the brewery was obviously negligent for stacking the barrel in a position where it could roll

out the window—hence the injured person was entitled to payment for his injuries.

Up to ten or fifteen years ago, this doctrine was applied in medical malpractice cases only when the facts of negligence were obvious to a lay jury such as removal of the wrong extremity, entering the wrong side of a chest, operating upon the wrong patient, or leaving a foreign body at the site of surgery. But at the present time, the doctrine is generally applied in some states to an injury resulting under general anesthesia and away from the site of surgery and to paraplegias following spinal anesthesia. Thus, the doctor is guilty when he takes the witness stand and must attempt to prove himself innocent.

Next, let us consider the recent Cutter polio vaccine decision which you have doubtless read about in the newspapers. While this court decision applies basically to the biological and drug industry, it bears ill tidings for the physician.

In this instance, the California courts applied the *warranty doctrine* to their decision, holding Cutter Laboratories responsible for the active poliomyelitis resulting from minute quantities of living virus remaining in the vaccine. That Cutter was completely exonerated of negligence both in testing methods and production of the vaccine, made no difference to the court. This is a true instance of liability without fault.

During the past year or two, a startling decision has come from the New York courts. A lady who suffered radiation dermatitis from x-ray therapy was referred to a dermatologist. These changes cleared but the dermatologist told her that she *might* eventually develop a skin cancer at the site of the radiation injury. It is said that she then developed a cancerphobia for which the courts awarded her damages on the basis of emotional suffering from thinking what *might* happen in the future. This is a landmark case since one of the basic legal concepts in personal injury litigation has been that the plaintiff must prove actual injury.

And now let us go to the midwest where equally disturbing decisions have very recently been rendered by the courts of Missouri and Kansas. In both of these decisions, rendered almost simultaneously, the doctors were held responsible for damages because they had not secured an *informed* consent. The courts acknowledged that the complications which resulted were to be considered hazards of the procedures involved and not necessarily indicative of negligence or malpractice on the part of the physician. On the other hand, the courts were emphatic in stating that the physician owed it to his patient to make a reasonable disclosure of the risks involved so that the patient could arrive at an intelligent decision to give his consent. Failure to do this, the courts said, constituted malpractice on the part of the physician even if he adhered to the standards of practice in his community.

Now, this brings up a serious problem for physicians, because the courts did not—and of course could not—specifically define what they meant by an informed consent. Must the physician lay before the patient a complete monograph on his procedure? Must he tell him of 100% of possible complications? Of 80%? Of 50%? Or must he tell him about the major hazards only and skin the minor ones? These are unanswered questions and for those of you who are doing investigative work dealing with patients, I can only emphasize the serious problem with which you are faced in embarking upon your clinical research. To be sure, the law has always required in experimentation that you make a disclosure to the patient of what you are doing and the potential hazards before you secure his consent. But where do you now separate investigation from clinical treatment *per se?*

What is the Answer?

That these trends are going to have a potent effect on practice and teaching and investigation is clear. Perhaps I've given you a dismal picture but, since we obviously have a problem, we need to consider what can we do about it.

First, we need to educate the public as to

what they can reasonably expect of medicine. We need to restrain the lay writers from painting overly optimistic pictures of advances in medicine, many of which are still in the investigative stage. Let us individually in our daily practice, and as a group, point out that the doctor can't always diagnose and he can't always cure.

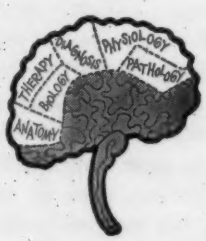
Second, we must get before the courts the fact that medicine is not an exact science. We must do all we can to stem the trend toward *liability without fault,* but this may well be impossible since it is clear that our nation is dedicated to the principle of security from cradle to the grave.

Third, and this is your task as physicians—you must press for increasing the standards of practice by improving the training of physicians to reduce the incidence of true malpractice where negligence, incompetence, and carelessness play a significant role. Those of you who are responsible for selecting medical school applicants must remember that acceptance must also be based upon the virtues of honesty, integrity, and kindliness—the absence of which in a physician may play a significant role in malpractice cases. Those of you who have a say in the curriculum must see to it that students and residents receive adequate instruction in the principles of law as they relate to medicine. I am appalled at the ignorance of the average physician in even the most basic principles of legal medicine.

Finally, to protect yourselves against the threat of malpractice, remember a few points. Practice medicine in a conservative manner, employing medical rather than surgical treatment whenever possible. Use simple and safe drugs rather than potent ones, if they will do the job. Use laboratory procedures and consultation freely to confirm your diagnosis. Make your patient a partner to his treatment—educating him to the possible hazards, pointing out that you are not infallible, and above all —make no guarantees of treatment.

Some ten years ago, Richard Ford—A Massachusetts physician—said: "The prevention of medical malpractice depends upon three points: good faith, good records, and common sense. Good faith implies that the physician treat this patient with tact and kindness, that he conceal no known difficulty in diagnosis or treatment, and that he advise consultation freely. Good records require that the physician adequately document the medical records of his patient and carefully record untoward happenings, and make a matter of record the treatment given and the advice offered. Common sense implies that the doctor know the vindictiveness of some patients, recognize the hazard connected with the collection of reluctant fees, be aware of the failure of equipment that in turn can produce injury, and use only well established medications and surgical procedures.

411 Thirtieth Street



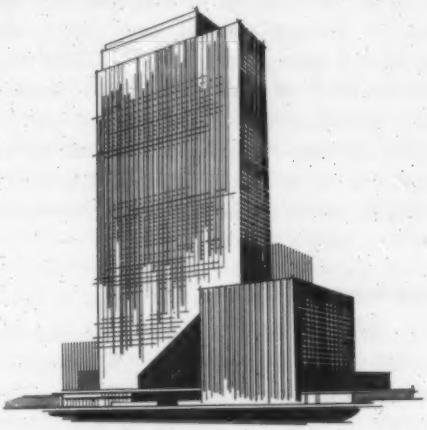
MEDIQUIZ

Working alone or with your colleagues, you'll find this is no snap.

PAGE 74a

HOSPITAL LIABILITY for Medical Malpractice

CARL E. WASMUTH, M.D., LL.B.
Cleveland, Ohio



Traditionally, interns and resident physicians are employed by hospitals both to render a service to the community in their care of emergency cases, and to receive instruction in medical and surgical practice from hospital staff physicians. The relationship has been an accepted feature of medical education for many years. The fact that interns and resident physicians receive also modest compensation does not create grounds for holding that the hospital is engaged in the practice of medicine. Rather than in the business of practicing medicine, the hospital is in the business of rendering a service to the community and to the intern himself.

The intern's primary and chief reward is the instruction that he receives when assisting or watching hospital staff physicians treat all types of diseases, and in the temporary care of emergency patients. Admittedly, the intern is less experienced than the staff physician; the question then arises, "Is the intern liable in malpractice for his negligent or unskillful treatment of the patients, and is the hospital liable vicariously for his wrongful acts?"

Agency

The law of agency immediately enters the discussion. Unless the intern or resident is made an agent of the hospital, liability of the hospital for negligent acts of the house staff is nonexistent. If agency exists, the hospital (or principal) may be liable, i.e., the wrongful act or tort is imputed to the principal. The courts are quite uniform in their decisions that an intern and a resident occupy the position of master-servant relationship with the employer hospital. It is said that the intern and resident carry out the routine duties as assigned by the master hospital.

To quote from the decision of a Minnesota court: "It does not seem reasonable to us to characterize a resident physician as an independent contractor while he performs the routine hospital functions for which he is hired." While the record on this phase of the case is not as detailed as might be desired, it is clear that the residents are paid employees of the hospital. They are assigned to supervise the interns in providing the details of medical serv-

From The Department of Anesthesiology, The Cleveland Clinic Foundation and The Frank E. Bunts Educational Institute, Cleveland, Ohio.

ice, physical examinations, and necessary treatment with which they are charged; to assist the interns when their capabilities are not sufficiently advanced so that they can do the service themselves; and to report to the attending staff the progress and effects of the treatment.

The relationship of a resident to a hospital is not unlike that of an intern or nurse. All three groups are specially and highly trained. All three are engaged in supplying the element of trained medical care which distinguishes a hospital from a hotel. Under these circumstances, we must hold that a resident, while providing medical care as a part of regular hospital routine, is a servant to the hospital so as to make the hospital liable for his negligence under the doctrine of *respondeat superior* (let the master respond).

Independent

In contrast to this position, the hospital staff member, that is, a physician in private practice who has hospital privileges, has always been classified in common law as an independent contractor. Such a person has no agency relationship to the hospital when questions of malpractice are in issue. While the resident and intern and the visiting staff physician are held to be practicing medicine, yet their fundamental agency relationships differ radically. The extent of control exercised by the principal (hospital) in the performance of the agent's work may be said usually to be the feature that distinguishes the two different relationships of master-servant and of independent contractor.

A servant is one who works physically for another, subject to the control of that other, who is called the master. The statement that the servant is subject to the control of the master does not mean that the master must stand by constantly and observe and supervise the work. It means merely that the relationship presupposes the right on the part of the master to have the work performed in such a manner as he directs, and the correlative duty on the part of the servant to perform in the manner directed, expressly or by implication, by the master.

In contrast, the independent contractor is one who performs services for the constituent, but neither as a servant or as an agent. His function is to do a job for a price. The finished job can meet certain specifications, but the manner and the control of doing it is up to the contractor. Obviously, such a function includes no power to represent the principal contractually. The contractor fails to be a servant because of the absence of any control by the constituent.

Thus, while there is, of course, a contractual nexus between the constituent and the contractor, creating contractual obligations of the ordinary sort, the contractor in no way represents the constituent toward the third persons, and has no power to create tort or contractual obligations against him.

Changes

However, the law, as it pertains to the independent contractor, is undergoing changes. The above definition of the independent contractor is still valid in many instances. It is true of the man who repairs your watch or your car; it is true of the taxi driver, unless conceivably the passenger effectively asserts and exercises his control of the driving. Today, however, there is a growing body of authority which makes the constituent liable for the torts of the contractor, particularly in cases of work to be done on the premises of the constituent, where the nature of the work is such as to make it dangerous to the public unless proper precautions are taken.

The modern law of independent contractors is largely concerned with the nature and the extent of this exception to the basic rule that the constituent is not liable for the torts of the contractor.

Although there has been much criticism of the rule of *respondeat superior,* it has been well-settled law for two hundred and fifty years. If any changes have occurred, it is in the direction of increasing the scope and the vigor of the doctrine.

Concept Stated

The concept of the indepndent contractor is one readily stated in conventional language. The independent contractor is one who performs a physical service for the employer, but not as a servant. Not as a servant—because he is not under the control of the employer, and because he is engaged not in the employer's enterprise but in one of his own. For example, the television repairman is plainly an independent contractor. You would not dream of telling him how to repair your television set; you can only hope that behind his uncontrolled operations lies the skills and the knowledge he purports to have. Equally plainly, he is in the business of television repair, and you are not. If he accidentally drops a picture tube out of the window on the head of an unsuspecting pedestrian, obviously it is no liability of yours. It is possible to say that the employer is not liable for the contractor's torts because there appears neither an accepted nor a good reason why he should be. It is probably still true that in general no considerations indigenous to master and servant suggest that the master be liable; courts, however, tend increasingly to feel that in certain types of work, involving a hazard to the public, the owner or the employer has a duty to the public which he does not avoid by turning the work over to a contractor. Thus the employer may be held liable, because he cannot, by employing an independent contractor, escape possible liability for special risks inherent in a particular project.

It is characteristic of the contractor that he possess skill and experience in the work required, that the employer does not and therefore is unable to supervise the work. However, the relationship is not altered by the fact that the employer is himself skilled. Thus, Surgeon A who employs Surgeon B to operate on Surgeon A's wife, is not employing Surgeon B as a servant. The family cook is not rendered an independent contractor by virtue of her expertness greater than that of her mistress.

The contractor normally furnishes his own equipment, and often his own place of work, but it is possible to do work with the employer's tools, and on the employer's premises, and still be an independent contractor. It is often held that a contractor has power to delegate and the servant does not. No doubt in the ordinary case where one contracts to have a job done, the nature of the job makes it the natural assumption that the contractor is not expected to do it in person, and hence that he is authorized to do it through the services of competent members of his staff.

Not Unskilled

Under these basic concepts of the common law of agency, it is difficult to understand how a physician skilled in a highly specialized field may be construed under the law to be a servant of a master. In addition, the master (hospital) may not—indeed, cannot practice medicine. No one will deny that the intern or the resident is *not* a highly trained and skilled individual. The fact that he enters a hospital for an internship or a residency, to further his training, should not relegate him to the classification of an unskilled servant. Indeed, this becomes more apparent, when he completes his year of internship. He performs medical acts upon a patient; he is now classified as an independent contractor who is liable for his own torts, and the hospital is not vicariously liable. Yet the same individual, were he to continue in a residency program to further his skills, would still remain a servant of the master hospital. Yet the latter, in fact, is the more highly trained and skilled individual.

Negligence

When an action is brought in negligence against an intern or a resident, it must of necessity be brought in medical malpractice. This means that the hospital, in order to be held liable for the resident's or intern's torts, is given the same protection as its servant—the resident physician—namely, an action in malpractice. When one examines the requisites of an action of malpractice, it is easily seen to differ from the requisites of a simple action in negligence.

In a medical malpractice action, negligence must be proved by expert opinion, evidence given by another physician or a specialist. Procurement of such medical experts has always been an obstacle in the path of a patient-plaintiff. Doctors are unwilling to testify against their fellow practitioners.

It becomes apparent that the intern and the resident have long been misclassified in the case reports. It seems unreasonable that such highly skilled individuals should still be considered servants of a master. Upon close examination, the resident and the intern fit uncannily into the category of an independent contractor. But the courts hesitate to so classify them, because there would be no vicarious liability on the hospital; they are hired and are dismissed by the hospital. In many instances they receive clothing, rooms and board from the hospital. On the other hand, the major payment is the training in their specialties. They do not receive this from the hospital, but from the practicing physicians and specialists who are associated with the hospital. It is their orders that the interns and residents carry out in treating the patients in the hospital. There is much more intimate association with the staff physicians than with the hospital.

Control

The courts should look to the hospital staff physician who oversees and establishes the policy by which his patients are treated by the resident and the intern. Surely the visiting physician exercises more control over the actions of the intern and the resident than does the hospital administrator. In most instances, interns and residents are minutely instructed in individual items of care by each staff physician. The intern and the resident are said to be the staff physicians' alter egos. Certainly the responsibility and the liability is closer, although the intern or the resident is much closer to the staff physician than to the hospital administrator.

At first blush, conflict may be seen in the decisions of the various courts dealing with employed physicians—physicians of hospitals organized for profit. The courts uniformly hold that a physician so hired by a hospital corporation-for-profit is indeed the agent of the hospital, in fact, is a servant of the hospital. It matters little whether such physicians are classified as servants or agents of the hospital-for-profit, the vicarious liability of the corporation, which can only act through its agents, is responsible for any acts of negligence of its agents. In this particular case, negligent acts of the house staff, the clinical staff, or any other agent are imputed to the hospital-for-profit.

Charitable

The situation is different in a charitable institution, wherein the intern and the resident are employees. The hospital, except where hospital immunity exists, is liable for the intern's or the resident's torts. Yet the hospital seldom, if ever, instructs the physician how to treat a patient, or does it wish to exert any decisive authority in this area. The visiting staff physicians control the residents and interns. The visiting staff directs the treatment of the patient. The visiting staff answers to the patient for conduct of the case. The intern and the resident physician carry out orders, and only in the absence of the visiting staff do they exercise their own judgment. For this, they are responsible to the staff physicians.

It is submitted, that the intern and the resident are independent contractors. As such, they are liable in tort for their negligent acts. If these acts are imputable, the staff physicians and not the hospital should be vicariously liable.

2020 East 93 Street

The Philosophy and Management of Pediatric Anesthesia *Today*

BARBARA LIPTON, M.D., New York, New York

On October 16, 1846, at the Massachusetts General Hospital, William Thomas Green Morton, dentist of Boston, demonstrated the feasibility of ether as an anesthetic agent. Few discoveries in medicine have proved so important. The pain of surgery has been alleviated, and the scope of surgery extended far beyond the dreams and aspirations of those who witnessed Morton's historic feat.

One of the great advances in the past few decades is the emergence of children's surgery as a specialty of general surgery. Prior to 1930, infants and children underwent procedures for correction of pyloric stenosis and intussusception, tonsillectomy, appendectomy, some orthopedic operations, and occasional unsuccessful attempts to correct more serious defects. The procedures were performed by surgeons more accustomed to adult patients, and the anesthetic agent used was almost invariably ether administered either by open drop or insufflation. Pediatric surgery has made great strides in recent years with the introduction of new operative technics devised for children and especially for infants, the use of antibiotics, increasing knowledge of fluid and electrolyte therapy, and improved anesthesia. It is apparent that the improvements in anesthesia derive from intelligent application of the wide variety of anesthetic agents currently available, the development of new apparatus, and better understanding of the physiology of the infant and child especially in response to anesthesia and surgery.

Since the family doctor or pediatrician has the opportunity to know the child, his parents and problems, and can be the first to prepare patient and family for the forthcoming procedure, it is felt that he should be au courant of the fundamental principles of pediatric anesthesia. This paper will review the modern approach to preoperative preparation, the

From the Anesthesia Service, Beth Israel Hospital, New York 3, New York.

fundamentals involved in physiologic maintenance of anesthesia, agents and technics currently in use, and postoperative management. The family physician can be a great help in assuring that the patient's physical condition and mental attitude are optimal before coming to the operating room.

Preoperative Preparation

The impressions that a child receives during his first stay in the hospital usually remain with him for the rest of his life. The child should be admitted to the hospital approximately twenty-four hours before operation, so that he may become acquainted with his surroundings, and adequately prepared for the contemplated procedure. This preparation may include fluid therapy, blood transfusion, passage of a nasogastric tube, or merely assurance that the infant, or child, has an empty stomach by the time anesthesia is begun. The preoperative visit paid by the anesthetist serves two main functions: *first,* appraisal of the patient's size and physical status, in order to determine the kind and amount of preanesthetic medication, and, *secondly* (if the child is old enough), to make friends with him and gain his confidence. Since the advent of hypnosis as an adjunct to induction of pediatric anesthesia, time must be spent exploring the psychodynamic problems of the child.

Preanesthetic Medication

Since much has been written[1] about the various agents used as preoperative medication, it is felt that a review of these would serve little purpose, and that it would be far more edifying to discuss them as an aid to psychological preparation of the child and induction of anesthesia. However, a brief outline of the classical aims of preanesthetic medication and of the type of medication which our department has found most satisfactory will serve as a guide for succeeding paragraphs.

Burstein[2] has listed the aims of pediatric preanesthetic medication to be avoidance of psychic trauma, prevention of mucus secretions during general anesthesia, prevention of reflex hyperactivity, and prevention of respiratory depression from oversedation. We have found a combination of secobarbital (Seconal®) and scopolamine, given intramuscularly one to one and a half hours prior to induction of anesthesia, the most suitable medication for fulfilling the foregoing qualifications. No medication is given infants under six months old. Thereafter, the amount of secobarbital given is usually 10 mgms. per year of age, and the amount of scopolamine is 0.05 mgm. from six months to one year of age; 0.1 mgm. from one to three years of age; 0.2 mgm. from four to eight years of age, and 0.3 mgm. from eight to fourteen years of age. The dose of scopolamine, of course, should be omitted or reduced in the presence of fever or dehydration. In excessively apprehensive children, or those scheduled for regional analgesia it is recommended that, in addition, morphine (one mgm. per year of age) be administered. In these cases, the secobarbital may be given two and a half hours before operation, and morphine and scopolamine one hour preoperatively.

Psychological Preparation

The preparation of the pediatric surgical patient should begin as soon as the decision to operate is reached. Parents may become frightened, and sometimes their reaction seems out of proportion to the procedure contemplated. This fear is quickly recognized by even a young infant, and often has deleterious effects upon the administration of an anesthetic. Here the family doctor can be of great assistance. He may be the one best able to communicate clearly to the family the nature of the forthcoming operation, and through his long-standing rapport allay their apprehensions. The American Society of Anesthesiologists has prepared a booklet which is helpful in explaining to parents the nature of the anesthesia to be given.

For the child who has reached the age of reason a cartoon book such as that prepared by the Buffalo Children's Hospital is an excellent means of preparation. This book can be colored by the child, and cheerfully depicts a

cartoon character named "Henry" undergoing the hospital routine for tonsillectomy.

It is important for parents to know what to tell the child, and this will vary with the technic planned by the anesthetist. A child who receives medication in his room that is potent enough to keep him asleep until anesthesia is begun need know nothing about transportation to the operating room and technics of induction. In his case the fundamentals of the preoperative discussion should be those outlined by Francis and Cutler;[3] namely, never lie, answer only what the child asks, do not volunteer information beyond the scope of his questions, and correct his misconceptions in simple language. They state that the fears often expressed by children are: fear of separation from parents, fear of mutilation, fear of loss of love. It is important for these fears to be verbalized since this helps to discharge the child's anxiety. If the history indicates that the child has undergone a past emotional trauma and is suffering from a neurosis, psychiatric therapy prior to an elective operation should be given. It cannot be overemphasized that deceptions practiced by some parents in bringing children to the hospital are to be condemned.

Once the child has been properly prepared by his parents and family doctor and admitted to the hospital, it is the hospital personnel who must continue intelligent management. Those who care for children should be made aware of the problems. Some psychiatrists feel that fear and emotional distress are greatest in children just before they are able to talk. Following that time, upsetting experiences are not uncommon, but they are eased by the child's ability to express himself. Up to the age of three years, anything that startles, or displeases, provokes screams and physical resistance. Francis and Cutler[3] state that emotionally traumatic experiences such as facing surgery are especially damaging from two and a half to seven years, and again from prepuberty to early adulthood. In these two ranges, the child is undergoing tremendous physical and emotional changes, and the added stress of a hospital experience is liable to be unbearable. The staff of a pediatric ward must empathize with their patients even more than those who care for adults. The atmosphere of the ward should be warm and cheerful, and only those who truly love children should be assigned there. Children are hard to deceive, and a smiling face that is a mask for hostility or just indifference does not have a soothing effect on the sick and frightened child.

If the child is to arrive in the operating room asleep, the function of the anesthetist's preoperative visit is to evaluate his physical status and order suitable preoperative medication. If, however, one does not rely on heavy preoperative sedation, then a combination of pharmacologic and psychologic technics are desirable. The pharmacologic technic used should consist of the small amounts of sedative medication outlined above, and the psychologic preparation should begin during the preoperative visit of the anesthetist the day or evening before surgery. If either parent is with the child, he should be included in the interview to the extent of supplying information not obtainable from the patient. Attention should always be directed toward the child in order to encourage him to express his ideas. It is necessary to find out how well the child has been prepared by parents, family doctor, or surgeon, and to learn if he has had a previous anesthesia and its effect on him. He must be told that he will be asleep and will feel no pain during the procedure.

The operating suite and the dress of personnel may be described. Depending on the technic of induction to be used and the personality of the child, the anesthetist may or may not demonstrate a face mask, delivery tube, space helmet, doll or story book.

With the preoperative sedation used in our department, the child becomes drowsy before being transported to the operating room, he is able to respond on command, his induction will be smooth and pleasant using the technic most suited to him, and he will remember little or nothing of his care. If any future surgical procedure is ever needed, he will have no unpleasant memories to heighten his fears.

Induction of Anesthesia

The success of technics of induction vary from child to child. The most carefully planned approach may turn out to be wrong for the particular child, and must be changed to suit him at the moment of induction. The skillful combination of hypno-suggestion, play technics, and chemoanalgesia during induction of anesthesia in children constitutes the art of pediatric anesthesia.

Betcher[4] has described hypno-induction technics for various age groups. From infancy to three years, the "lullaby" effect of soothing voice and gentle touch was used. From three to eight years, "pretending" (i.e., the rabbit on the wall is getting more and more sleepy) was employed. The "hallucinatory image" was used in the eight to fourteen age group, the child being told to describe an imaginary situation and to get progressively more sleepy. In the fourteen to twenty year age group, the adult technic of "hypnotic patter" was utilized. As the trance developed in all of the above technics, the anesthetic mask was held twelve inches above the face while a mixture of nitrous oxide and cyclopropane was allowed to drop by gravity over the face. The mask was lowered gradually, and the child drifted off to sleep.

Nitrous oxide and cyclopropane are both excellent agents for induction in young children. These gases are heavier than air, and induction may be begun by using either one alone, or a mixture of the two as described above. Often these can be administered through a rubber delivery tube leading from the anesthesia machine, and held above the patient's face over the bridge of the nose between the eyes so that he is unaware of the presence of the apparatus. This can be done while the infant is lying in the crib, or being held in the anesthetist's lap, or, in older children, while they are drawn into conversation about home or school, singing songs, playing with toys, or "mixing perfumes" in the anesthesia machine. Incidentally, the singing or talking will increase the respiratory exchange and hasten induction. In children between seven and ten years of age, especially boys, the face mask may be accepted directly and even held by the child if it is suggested that this is in preparation for a visit to outer space, or a trip to the moon. Small children who will readily play with the dolls, or other toys presented to them, may be anesthetized via an opening in the toy through which gases are blown. There are some children who do not object to a venapuncture and will accept induction with a rapidly acting intravenous barbiturate such as thiopental (Pentothal®).

Divinyl ether (Vinethene®) is a potent yet safe agent widely used for induction. It does, however, have a strong odor, and children may remember having a mask placed over their faces. It is now commonly used to follow induction with nitrous oxide or cyclopropane in order to facilitate the subsequent administration of open drop ethyl ether. Ethyl ether is an unpleasant agent to use for induction because it necessitates use of a mask and has a pungent and irritating odor.

The administration of rectal anesthesia such as thiopental (Pentothal®) or tribromoethanol in amylene hydrate (Avertin®) avoids a stormy induction, but has many disadvantages which limit its usefulness in modern practice.

Anesthetists do differ as to whether the child patient should be unconscious upon arrival in the operating room, fully awake, or moderately sedated. However, it is only on rare occasions today that one is faced with an unmanageable child that no amount of psychic preparation or sedation can control, and, the confusion and distress which this creates serve to emphasize the tranquility and ease with which most children are anesthetized by those trained in the art of pediatric anesthesia no matter the difference in agent and technic.

Maintenance of Anesthesia

ANATOMIC AND PHYSIOLOGIC CONSIDERATIONS. Many anesthetic fatalities are due to some inefficiency of the respiratory system, and it is this system that is especially vulnerable in the infant and child. Mechanical difficulties may be encountered: the nasal airway may be blocked partially by adenoid tissue, or beans.

beads and other articles which the child has stuffed into his nose. Enlarged tonsils or a wad of gum may obstruct the oropharynx. Obstruction occurs frequently in the young infant when his mouth is closed because, in the absence of teeth, his tongue is pushed against the palate and blocks the oral passage. This can be avoided by use of an oropharyngeal airway or by extending the head with relaxation of the lower jaw.

The infant's trachea is short and has a narrow diameter. The adult trachea is about 10 cm. long with a diameter of 2 to 2.5 cm., that of a newborn about 5.5 cm. long with a diameter of 5 mm., that of a three-year-old child 8 cm. long with a diameter of 8 mm. The infant's trachea can easily become clogged and the bronchi collapsed. Laryngeal edema, thick secretions or aspiration of gastrointestinal contents is therefore a much more severe hazard than in the adult.

In the infant, respiration is carried out almost entirely by the diaphragm while the thoracic wall acts as a fixed point from which the diaphragm can work. Because of the weakness of the cartilages and ribs in the newborn, there is a certain amount of paradoxical respiration that diminishes the efficiency of respiration. The normal respiratory pattern of the newborn is characterized by rapid, irregular respirations interrupted by an occasional deep breath. Sobbing respiration, a two-stage inspiratory effort, is seen in the anesthetized infant and child in instances in which prolonged crying preceded induction. However, it may sometimes occur during anesthesia, not preceded by crying. During abdominal operations this may prove troublesome to the surgeon.

The average tidal volume in the infant is 20.5 cc. per minute, with an average respiratory rate of 28.5 per minute.[5] Rapid rates of eighty to ninety per minute may occur in a normal infant, but are maintained only for one or two minutes. Since one-third of the tidal volume represents dead space air, it is obvious that such rapid, shallow respirations are inefficient. If such rates persist, they result in exhaustion and inadequate gas exchange. Oxygen consumption in young infants is almost twice that of adults, or 77 cc. per kg. per minute.[5] Therefore, hypoxia may occur with relatively little change in tidal volume. Tidal volume increases with added weight more rapidly than the respiratory rate decreases, resulting in a progressively larger minute volume as the infant grows. The oxygen consumption also increases, reaching a peak of 10 cc. per kg. per minute between three and five years of age.

In anesthetizing infants, one must remember that they have a tendency to ingest gases into the stomach. On inspiration a negative pressure occurs in the stomach and air is drawn in. If this results in marked gastric dilatation, the infant may have cyanosis, grunting respirations or circulatory collapse. It is also important to note that small infants have extremely active laryngeal reflexes. An endotracheal tube should never be withdrawn while suction is being applied, since this may result in prolonged laryngospasm.

Greater fluctuations of circulatory function occur in the normal infant than in the adult. Blood volume in infants is small: approximately 500 ml. in the newborn and 1000 ml. at the end of the first year.[6] Any blood loss is serious, and it is advisable to replace even the smallest loss in children under two years of age.

At birth the systolic blood pressure is 75 to 85 mm. of mercury, the diastolic pressure 30 to 40 mm. During the first two weeks of life, the blood pressure rises to about 100/60 mm. of mercury.[7] The pulse rate of the newborn is 180, decreasing slowly to reach 113 to 127 at one year of age.[8] Any spontaneous, or stimulated, activity may increase the blood pressure, or pulse rate; the latter often becoming so rapid that it is countable only by placing a stethoscope over the precordium. Sinus arrhythmia is a common finding in infants and children, but usually disappears during anesthesia. In older children, a tachycardia may be indicative of large doses of atropine or scopolamine, carbon dioxide retention, hyperthermia or shock. Pallor is frequently seen in the anesthetized child. Anoxia, deep ether anesthesia,

traction on the intestine, or spinal anesthesia may be the causes, and not necessarily blood loss or shock.

Body temperature in the infant and young child varies considerably, and marked hyperthermia or hypothermia may exist. Either one must be readily corrected. Hyperthermia is usually associated with too many drapes, high humidity, closed absorption technic or large doses of belladonna. However, in modern air-conditioned operating rooms, the anesthetized infant or young child is more likely to lose heat. This is further enhanced by using a non-rebreathing technic, by exposing large skin areas or body cavities to the environment, or by administration of refrigerated blood. In the adult, heat production or loss is regulated by shivering, sweating and vasoactivity of cutaneous blood vessels.[9] In the premature baby, the infant under two years, and to some extent in older children, sweat production is limited and the shivering mechanism is inadequate due to weak musculature.[10] When general anesthesia is given, the shivering reflex is abolished, vasoactivity is depressed and, because of the relatively large surface area in relation to body mass, cutaneous dilatation plays an even more important role in lowering body temperature. The anesthetized infant becomes essentially poikilothermic. Stephen and his associates[11] suggest that body temperature be monitored continually in every infant and child undergoing extensive or prolonged surgery. They control body temperature by utilizing a heating-cooling unit which automatically and rapidly will stabilize the temperature at a level preset by the physician. Continuous monitoring of temperature is done by insertion of a thermistor from two to four inches into the rectum or into the mid-to-lower esophagus, and then connecting the thermistor to a recorder. In regulating the temperature they found the Therm-o-Rite® apparatus currently useful in adult patients to be too large for small children, and use a unit called Aquatic-K-Thermia® consisting of plastic blankets of various sizes through which water circulates. The thermistor is connected to an electronic control box, and this box, in turn, motivates the heating or refrigeration unit depending on the change in temperature to be effected. Either warm or cool water is then circulated through the blanket. Although hypothermia has become very popular recently as an adjunct to patient management during certain surgical procedures because it reduces the oxygen demand of tissues (6.0 percent for each °C. drop in temperature), hypothermia that occurs inadvertently and undetected can be dangerous. As basal metabolism is reduced, anesthetic requirements are decreased, and if hypothermia is not recognized, relative anesthetic overdosage occurs. Especially in infants and small children where the margin of error is small this may be fatal. Stephen[11] also points out that sclerema (induration of the skin and subcutaneous tissues) is a complication of surgery of the premature infant if hypothermia goes unnoticed, and this, too, may be fatal.

No discussion of anatomic considerations in pediatric anesthesia should end without mentioning that the termination of the spinal cord is low in infants, ending opposite the third lumbar vertebra. On the rare occasions when spinal anesthesia is used in infants, the tap must be done at a lower level than in the adult. When caudal anesthesia is used in the infant, the possibility of an incomplete sacral arch should be borne in mind since this would result in an ineffective anesthesia.

Adequate Oxygenation

One must always be sure that adequate oxygenation is maintained. The child should receive at least 20 percent oxygen in the inhaled atmosphere. It is not enough merely to administer this adequate oxygen percentage; one must be sure that respiration is adequate and the airway patent so that the required oxygen will reach the alveoli and the blood stream. Proper holding of the jaw may be adequate to preserve the airway, but frequently an oropharyngeal airway or endotracheal tube is necessary. Any obstruction of the airway or depression of respiration will produce some degree of hypoxia.

Elimination of Carbon Dioxide

An increase in carbon dioxide in the inspired air that is much above normal can be hazardous. This hypercarbia readily results in an increase in respiratory rate, an elevation of blood pressure, and a tachycardia. A prominent factor in the production of an increase in carbon dioxide is the rebreathing of anesthetic mixtures. This can be remedied by employing nonbreathing technics. It is important to note that a small face mask contains about 50cc. of dead space. When open drop ether is administered, oxygen should be run under the mask to avoid accumulation of carbon dioxide as well as hypoxia.

Minimal Resistance to Respiration

Small children rapidly become fatigued when subjected to the resistance present in the modern anesthesia machine. Their respiratory muscles tire, the respiratory rate increases, and the tidal volume decreases. When the open drop technic is used, there is minimal resistance. There are times, however, when this technic is not feasible. The closed carbon dioxide absorption system should be used with caution because the amount of resistance present is frequently more than the child can tolerate, carbon dioxide may accumulate and hyperthermia may ensue. Insufflation technic (the insufflation of large flows of gases into the mouth or pharynx) results in little resistance to respiration but gives the anesthetist no control of the airway and little control over the depth of anesthesia. The Ayre's T-tube technic provides minimal resistance. On inhalation, the child draws a large amount of air through the open arm of the T-tube and some gases from the anesthesia machine, and on exhalation the exhaled gasses pass into the atmosphere through the open arm of the T-tube. One of the best technics for children, however, is that utilizing the nonrebreathing valves designed by Digby Leigh, Stephen and Slater, or Fink. In this method, the gases flow into a reservoir bag, and between this and the mask or endotracheal tube are two valves arranged in such a way that the patient can inspire only from the bag, and his expirations are blown off into the atmosphere. In this way it is virtually impossible to accumulate carbon dioxide, and the valves are of such construction that they provide minimal resistance in the circuit.

Fluid and Electrolyte Equilibrium

The anesthetist must be aware of the fluid and electrolyte imbalances that occur in various surgical conditions, since correction of them before and during operation may be life saving. Children tolerate surgery better, and recover more quickly when they are well-hydrated and have relatively normal concentrations of body electrolytes. The principal derangements that occur in surgical conditions are acidosis, alkalosis, dehydration, ketosis, potassium depletion and chloride deficiency.[12]

ACIDOSIS—occurs when intestinal obstruction below the pylorus has been present for more than eighteen to twenty four hours, and results from loss of alkaline intestinal secretions through vomiting and duodenal suction, from starvation ketosis, or from impaired renal function resulting from dehydration and shock. When mild acidosis exists, correction of dehydration and restoration of renal function are adequate, but in the presence of severe acidosis 1/6 M sodium lactate or sodium bicarbonate solution should be given intravenously. The usual amount of 1/6 M sodium lactate given is 30 ml. per kg. of body weight.

ALKALOSIS—When loss of hydrochloric acid from the stomach is relatively greater than loss of alkaline intestinal secretions, alkalosis occurs. It is corrected through restoration of normal chloride concentrations, and administration of Ringer's solution will do this. Usually 30 ml. per kg. of body weight suffices.

DEHYDRATION—in surgical conditions is due mainly to lack of fluid intake, vomiting, and fever. To correct moderate dehydration 5 per cent glucose in distilled water should be given along with Ringer's solution or isotonic saline. Of the latter solutions, 30 ml. per kg. of body weight is sufficient until laboratory data become

available. When dehydration is so marked that anhydremia and shock are present, the most important aspect of preoperative treatment is to restore normal circulating blood volume and normal kidney function. A blood transfusion may be necessary prior to surgery.

KETOSIS—is produced when food intake ceases and starvation begins. Glycogen stores are then utilized to provide for caloric needs, and when these are exhausted, fat is used to supply energy. Ketone bodies, which are the end products of fat metabolism, are produced in abnormal amounts. Infants should not receive anesthesia until the urine is clear of acetone. Correction of ketosis can be accomplished by administration of glucose in amounts of 3 to 5 gm. per kg. of body weight. When rapid correction of dehydration and ketosis is necessary prior to operation five to ten percent glucose in water may be given intravenously.

POTASSIUM DEPLETION—This results from failure of potassium intake in the presence of continued renal excretion, or from vomiting, diarrhea, or diminished reabsorption of gastrointestinal secretions proximal to the site of obstruction. Ten ml. of potassium chloride —Ringer's solution per kg. of body weight may be given subcutaneously every six hours after renal function has been restored.

ADMINISTRATION — In conclusion, intravenous fluids should not be administered at a rate exceeding twenty drops per minute (60 ml. per hour), and in small infants receiving continuous intravenous fluids the rate should be much slower. The needs of each individual child should be calculated, and the rate of infusion adjusted accordingly. The young infant, until he is two or three months of age, cannot concentrate urine efficiently, requires relatively more urine to excrete solutes than do adults, and has little reserve capacity for conserving water in pathologic states such as fever and vomiting. Despite this relatively larger obligatory urine excretion, newborns also have a decreased ability to excrete water, and water intoxication may be a hazard in the first three months of life.

Agents and Technics

ETHER: Diethyl ether is still the most widely used agent for anesthetizing infants and children. It is potent, has a wide margin of safety, is effective in a high concentration of oxygen, and can be administered with simple equipment. In infants and young children, it is most frequently given by the open drop method in which the liquid is vaporized on a gauze-covered mask. Oxygen is run under the mask via a catheter. This method does not, however, allow the anesthetist to assist or control the patient's respirations. When this becomes necessary, other technics must be used. Older children do better if they receive ether through an anesthesia machine as is done in adults. Ether does have certain disadvantages.[13] It tends to produce a metabolic acidosis, temporarily depress liver function, and is a gastric irritant causing nausea and vomiting postoperatively in many patients. It is also highly explosive in anesthetic mixtures and should not be used in the presence of cautery. Ether provides good muscular relaxation for abdominal procedures. It can also be used in conjunction with a high flow of nitrous oxide and oxygen utilizing the T-tube or nonrebreathing technics.

CYCLOPROPANE: Cyclopropane is a potent agent, excellent for induction in children, but is a powerful respiratory depressant and surgical relaxation is not obtained until respirations long have ceased. If it is to be used beyond the induction period, a closed absorption system must be employed. Cyclopropane administered sparingly can provide good anesthesia for the small, and especially the premature, infant using pediatric to-and-fro or circle absorption equipment with the smallest amount of tubing and connectors so as to eliminate as much dead space and resistance as possible. If the anesthesia must be deepened, one should add ether rather than give cyclopropane until surgical relaxation is achieved. Cyclopropane may be used with a relaxant drug in children, but this combination is not advisable in infants. Epinephrine must never be used in the presence of cyclopropane, for in a large percentage of

cases this leads to serious arrhythmias and sometimes cardiac arrest. This agent is also explosive in anesthetic concentrations.

NITROUS OXIDE, HALOTHANE (FLUOTHANE®), TRICHLORETHYLENE, BARBITURATES: Nitrous oxide is a most valuable agent in pediatric anesthesia provided one is aware of its limitations. It is a weak anesthetic, but a potent analgesic agent. It disturbs body metabolism less than any other agent, and it serves as a powerful analgesic force when used in combination with other agents such as trichlorethylene and barbiturates. Intravenous barbiturates such as thiopental (Pentothal®) and thiamylal (Surital®) are primarily hypnotics and exert an analgesic effect only by virtue of the depth of hypnosis produced. These hypnotic agents are excellent in combination with the potent analgesic nitrous oxide, and provide adequate anesthesia when a non-explosive technic is mandatory. The disadvantages in using barbiturates are that they tend to produce respiratory depression and hypotension.

Halothane (Fluothane®) is a colorless liquid with a sweet odor which is usually administered along with nitrous oxide and oxygen via a finely calibrated vaporizer. It is non-explosive, potent enough to provide muscle relaxation and allows the patient to recover quickly and quietly. It must be given with great care in children because even a small overdose produces marked hypotension, bradycardia, or both. If the child is kept lightly anesthetized with halothane, tachypnea may develop. Halothane, in very small concentrations, is currently used for pediatric cardiac surgery in many institutions.

Trichlorethylene, also a liquid with a sweet odor, is administered along with nitrous oxide and oxygen, and may be substituted for ether in the vaporizers or the anesthesia machines. It is non-explosive, but does produce tachypnea and arrhythmias, and must never be used in a carbon dioxide absorption system because it reacts chemically with soda lime to produce dichloracetylene (a compound which causes permanent neurologic damage and death). The nonrebreathing technic is the best way to administer halothane, or trichlorethylene, in conjunction with nitrous oxide and oxygen. Both halothane and trichlorethylene may not be used with vasopressor drugs containing a catechol nucleus, e.g., epinephrine or ephedrine, because ventricular fibillation many ensue.

RELAXANT DRUGS: The use of relaxants in children is avoided by many anesthetists. They are safe, however, provided one has adequate means of artificial ventilation available. Succinylcholine is an excellent short-acting relaxant for children, and in a single dose of one to forty mg. (depending on the size of the infant or child) may greatly facilitate intubation by permitting atraumatic insertion of the endotracheal tube in a lighter plane of anesthesia and much earlier in the induction period. This reduces the risk of laryngospasm and other types of respiratory obstruction that often accompany a pediatric induction. The technic used when employing succinylcholine for intubation is to ventilate the child with one hundred percent oxygen for several minutes at the time the relaxant is injected intravenously, so that hypoxia does not occur during the apneic period of the intubation. Following intravenous administration of single doses of succinylcholine, bradycardia may appear especially in children. This bradycardia may sometimes be avoided by giving the succinylcholine intramuscularly. During the apnea that follows an intubation aided by succinylcholine one must be careful to ventilate the child until normal respiratory activity returns, i.e., in about three to ten minutes. While controlled respirations are being maintained, potent anesthetic agents should be added very circumspectly to the gas mixture since it is very easy to attain high alveolar concentrations and blood levels of anesthetic agents when the anesthetist is breathing for the patient. A small child can easily and quickly be overdosed. In children prolonged apneas induced by succinylcholine are rare.[14]

ENDOTRACHEAL INTUBATION: Preservation of a patent air passage is essential for the well-being of the patient, and endotracheal intubation is an important means of insuring

this. When an anesthetic must be administered in the presence of severe intestinal obstruction, aspiration of gastrointestinal contents is an imminent danger, and, when general anesthesia is contemplated, passage of an endotracheal tube which is fitted to the size of the glottis is the only means of insuring against this hazard. Intubation is also advisable in surgery around the head and neck where the anesthetist's access to the airway is hampered, and aspiration of blood, secretions and foreign material is always a menace. Newborn infants can usually be intubated awake without anesthesia or with just a topical anesthetic applied to the vocal cords. In older infants and children, this method is not feasible, and intubation must be performed when the patient is adequately relaxed by anesthetic agents. If intestinal obstruction is present, a nasogastric tube should be in place before the start of anesthesia and aspirated frequently. Other situations in which endotracheal intubation is necessary are procedures performed in the prone position, those done on children who have recently ingested food and those in which the pleura is to be opened. Postoperative edema of the larynx and trachea may be avoided by not using endotracheal tubes which fit the glottis too snugly, by using tubes that are scrupulously clean and, in the case of infants, sterile. A five-minute pHisoHex® scrub of all surfaces of the tube will assure that it is clean, and passage through a gas sterilizer will do little damage to the structure of the endotracheal tube. It is hoped that sterile disposable endotracheal tubes for pediatric anesthesia will soon be routinely used by hospitals throughout the country. It is also judicious to place in a "croupette" (a cold steam and oxygen tent) for several hours postoperatively any infant or small child who has had endo tracheal anesthesia. If signs of croupy cough or stridor develop, a wetting agent such as Alevaire® should be added to the steam, and a tracheotomy tray left at the bedside. Other complications of the endotracheal technic are kinked or occluded tubes, and excessive pulmonary pressure resulting in ruptured alveoli and emphysema. In the hands of the meticulous and experienced anesthetist, these complications almost never occur and the smooth, rapid, safe anesthesia that endotracheal technic affords has done much to facilitate modern pediatric surgery.

REGIONAL TECHNICS: Despite the fact that spinal, caudal and other regional technics have been reported as useful in children,[15, 16] most anesthetists are loathe to utilize them because of the fear of irreversible damage to the nervous system, toxicity of local anesthetic agents, and lack of cooperation of young (and even older) children. The excellent control which endotracheal anesthesia affords us today is making the use of regional analgesia in pediatric surgery quite unnecessary.

Postoperative Management

In the postoperative period, complications and emergencies may arise so unexpectedly that expert nursing care and careful observation are of the utmost importance. Oxygen with high humidity and should be given to all infants who have had major surgery. In premature and newborn infants the use of the "Isolette"® with its controlled temperature and easily regulated oxygen atmosphere is advisable. Suction apparatus should be at the bedside of each patient, and the recovery room and pediatric floor should keep available a tray containing an infant and child bronchoscope and laryngoscope, endotracheal tubes, oropharyngeal airways, and suction catherers of various sizes. Children who have had general anesthesia should be kept lying in Sims' position with the head lower than the rest of the body, until they have completely reacted. This position helps maintain an unobstructed airway by allowing the tongue to fall forward, and by preventing the aspiration of secretions. In older children, the administration of small amounts of sedatives, and very occasionally narcotics, may be necessary.

Certainly, there is no greater need for well-trained, intelligent conscientious doctors and nurses than in the management of a pediatric surgical ward. Not only the physicial but also the emotional needs of the child patient must

be understood and fulfilled. Eckenhoff,[17] in a study of children admitted to the Hospital of the University of Pennsylvania for otolaryngological operations, found that seventeen percent had personality changes that might be attributed to their hospital experiences. For many children with congenital anomalies, the hospital visit may be one of many, and their experiences during one stay may make them either delightful or difficult patients on the next. Above all, one must remember that those who manage children best are those who are genuinely fond of them and whose behavior suggests their affection.

Summary

1. The family physician can be a great help in preparing the pediatric patient for anesthesia and surgery. The psychological preparation of both patient and family aided by the use of proper preanesthetic medication and a suitable mode of induction will result in a smooth and safe anesthesia.

2. To maintain anesthesia intelligently in the infant and child one must have a knowledge of their special anatomy and physiology and the requirements of fluid and electrolyte balance. Adequate oxygenation, elimination of carbon dioxide and provision for minimal resistance to respiration are essential.

3. The agents and technics used in pediatric anesthesia are essentially the same as those used for adults, but with particular emphasis placed on agents such as ether and technics such as open drop or nonrebreathing. It is not so much the agent or technic, but their skillful application, that is important.

4. Postoperatively, an expert medical staff, a well-equipped pediatric floor, and understanding management of the infant or child are as necessary to the recovery of the patient as they were before and during operation.

References

1. Smith, R. M.: Anesthesia for Infants and Children. St. Louis, Mo., The C. V. Mosby Co., 1959, p. 72.
2. Burstein, C. L.: Pediatric Preanesthetic Preparation. Anesthesiology, 14:567, 1953.
3. Francis, W. and Cutler, R. P.: Psychological Preparation and Premedication for Pediatric Anesthesia. Anesthesiology, 18:106, 1957.
4. Betcher, A. M.: Hypno-Induction Techniques in Pediatric Anesthesia. Anesthesiology, 19:279, 1958.
5. Leigh, M. Digby and Belton, M. K.: Pediatric Anesthesiology. New York, Macmillan Co., 1960, p. 64.
6. Smith, C. A.: Physiology of the Newborn Infant. Springfield, Ill., Charles C. Thomas, 1951, p. 85.
7. Woodbury, R. A., Robinow, M. and Hamilton, W. F.: Blood Pressure Studies on Infants. Am. J. Physiol., 133: 472, 1938.
8. Allen-Williams, G. M.: Pulse Rate and Blood Pressure in Infancy and Early Childhood. Arch. Dis. Childhood, 20:125, 1945.
9. Pickering, G.: Regulation of Body Temperature in Health and Disease. Lancet, 1:1, 1958.
10. Day, R., Curtis, J. and Kelly, M.: Respiratory Metabolism in Infancy and in Childhood: XXVII. Regulation of Body Temperature of Premature Infants. A.M.A. J. Dis. Child., 65:376, 1943.
11. Stephen, C. R., Dent, S. J., Hall, K. D., Knox, P. R. and North, W. C.: Body Temperature Regulation During Anesthesia in Infants and Children. J.A.M.A., 174:1579, 1960.
12. Hill, F. S.: Practical Fluid Therapy in Pediatrics. Philadelphia, W. B. Saunders Co., 1954, p. 199.
13. Adriani, J.: The Chemistry of Anesthesia. Springfield, Ill., Charles C. Thomas, 1952, p. 158.
14. Telford, J. and Keats, A. S.: Succinylcholine in Cardiovascular Surgery of Infants and Children. Anesthesiology, 18:841, 1957.
15. Etherington-Wilson, H.: Spinal Analgesia in the Very Young and Further Observations. Proc. Roy. Soc. Med., 38:109, 1945.
16. Slater, H. M. and Stephen, C. R.: Hypobaric Pontocaine Spinal Anesthesia in Children. Anesthesiology, 11: 709, 1950.
17. Eckenhoff, J. E.: Relationship of Anesthesia to Postoperative Personality Changes in Children. Am. J. Dis. Child., 86:587, 1953.

2 Fifth Avenue

When Should My Cardiac Patient

C. ANTHONY D'ALONZO, M.D., F.A.C.P., Wilmington, Delaware

A perennial problem for the physician in industry concerns those employees returning to work after a cardiac episode, usually a myocardial infarction. Is such an individual able to return to his former job, should he be assigned to "lighter" work, or is he able to return to work at all? Many different kinds of problems come into play here — first of all, the clinical evaluation; next, the financial need; then the attitude of the physician, the patient, the family and friends, the social situation, and many others.

The question of return to work is not as simple as it sounds.

We are, of course, all familiar with the special test exercises which have as their purpose the testing of the heart under stress. One of these is the popular "Master two-step test," or treadmill exercise. Another utilizes the principle of reducing the oxygen supply for a brief time to determine whether or not heart pain results. Exercise tests, however, require a high rate of energy expenditure for a relatively short time. Since the principle of workability requires a balance between the work load of the job and the work output capabilities of the body, these tests, even though valuable for fundamental heart study, do not simulate the actual working conditions.

The vast majority of industrial jobs today require but moderate to minimal effort. As a matter of fact, it is our opinion that, in many instances, the effort of getting to and from work requires more stress and strain than the actual work conditions. These remarks are particularly apropos with the increasing use and application of mechanization in industry. There are exceptions, of course, but we would urge the family physician to inquire more frequently into the actual requirements of work, rather than to assume that these requirements cause mental stress or physical activity of an undue nature.

Some physicians believe that a return to work on the graded work principle, and careful observation of the patient's tolerance and response is the finest test of all, because it is a graded test under the actual working conditions or demands of the specific job. Whether one can or cannot satisfy these requirements becomes apparent once and for all. If he cannot, another trial is always possible should conditions change, such as improvement in his physical condition, or a lessening in the demands of his job for various reasons.

Upon returning to work, the next question is—should one return to the same job, or to a special one? Here the attitude of the patient is of prime importance, and this attitude is often engendered by the attitude of the attending physician. If the physician is optimistic and encouraging, this attitude is usually reflected in that of the patient.

Dr. D'Alonzo is Assistant Medical Director, E. I. du Pont de Nemours and Company, Incorporated, Wilmington 98, Delaware.

Return to Work?

Some of our leading cardiologists have increasingly recommended intelligent and graded exercises as soon as the acute onset is over. In many instances, the energy requirements of these exercises are more strenuous than those required for the performance of one's job.

As far as the mental stress is concerned, we are convinced that too frequently this so-called stress is a state of mind based on a pattern or habit of the patient, rather than fact. We are all familiar with the individual who has no stressful situation but will always create one in his own mind, a typical "worry wart," whereas, a differently patterned employee with a lot of stress will absorb or never exaggerate it. We must face the realistic fact that we have cardiacs and other afflicted employees happily and gainfully employed for disorders of a magnitude twice as severe as that for which others had to be pensioned. These variations are indeed important to evaluate and consider, but the attending physician should always be aware of the frequency of exaggeration of the stressful situation. Sometimes, so-called mental stress, as well as physical stress, is a reflection either of one's attitude or ability to do a job. We should not overlook the fact that many of our employees, and not infrequently our pensioners, do more work at home than is or was ever required in the performance of their job.

Enlightened management is beginning to ask about the frequent conflict of medical opinions, which should always be based on more fact and observation than is frequently the case. This was our situation recently when one of our executives discussed with us two patients under consideration. One was an unemployed cardiac who had a fairly recent and severe attack of coronary thrombosis and who was pleading for a job because of a great need for it. His plea was supported by a letter from a physician who extolled the advantages and abilities of this cardiac for the assignment. A similar instance was presented, that of a long-service employee who had a comparable attack of equal severity, duration, and job requirements, and who likewise presented a letter from his physician who went into a great length to insist on the absolute need for retirement, and the advantages for the employee thereto. Certainly the main difference here is that one needed a job and the other didn't. This type of conflicting medical opinion is difficult to reconcile with astute management. As someone has put it, it would seem that "Them that's in, wants out, and them that's out, wants in." Another of our executives summarized our situation very aptly when he stated that, if we are to put into effect the true spirit of rehabilitation, industries should have an opportunity to rehabilitate their own long-service employees, rather than someone else's. We in the Medical Division agree that this is the true spirit of cardiac rehabilitation in industry.

The Work Classification Clinics, familiar to all of us, are doing a commendable job; although we perhaps have not used them as much as some of the heavier or smaller industries have found necessary, our experience with them has been excellent. Cardiac rehabilitation is a relatively newcomer, and perhaps can serve a real need, but should not be abused. In this instance, I wish to cite an instance of a cardiac, who was convalescing and who drove to and from a rehabilitation center in a congested area in preparation for his return to work. Various types of occupational therapy, all new to the employee, were being used. In looking into this individual's job requirements, we found that his sole job requirement was sitting in a chair reading

thermometers of several nearby chemical reactions.

The fears and anxieties, both real and imagined, are a definite obstacle to the cardiac patient. The most important person in this picture is the personal physician, whose attitude should be enlightened and based on the fundamental picture of industry today. The family attitude, the problems to the employer or potential employer, a union, and the social worker all present different outlooks and opinions simply because the perspective background, training, and judgment of these people are not the same. The occupational physician too often is considered as having a biased opinion, and so the key to the entire rehabilitation as we see it rests on the attitude and recommendations and encouragement of the family doctor; and certainly the financial need to return to work is one of the greatest incentives of all.

I would urge that a closer rapport be established between the attending physician and the plant physician. The plant physician has at his fingertips or can quickly ascertain the specific job requirements without the frequent exaggerations or minimizations of the patient. We would urge the family doctor to use this source of information more widely than has often been the case.

In summary, I would say that the cardiac patient should return to work, barring complications, when:

1. The patient is free of any evidence of decompensation.

2. The patient has been counseled to return to work when this is desirable through encouragement by the family physician. This point is particularly true when there is a plant physician available who is prepared to observe and make suggestions for the need of reduced work load or assignment if such a need becomes necessary.

3. The actual performance of the assigned work does not produce or precipitate cardiac signs or symptoms.

Conclusion

It is difficult to establish a specific time for the return to work after a heart episode. It is our observation that the individual who has experienced an attack of coronary thrombosis and who has either a sedentary job, or one requiring no great effort, should be able to return within a six-week period. On the other hand, those assignments requiring moderate to severe strain, or whose attack has been of greater severity, should be able to return in most instances after about three months. There is nothing magic about the six weeks or three months periods, both of which seem to have become a fixed medical habit. These will be the usual distribution of cases, some of whom could and should return sooner, and others of whom should remain out longer, or not return at all. In this connection, I wish to cite our own three-year myocardial infarction study. Fully twenty-four percent of all cases submitted, regardless of the time away from work, had insufficient evidence of a myocardial infarction to be included in the study.

The question of return to work, therefore, is not as simple as it sounds. A large array of problems as mentioned above come into play, as well as the problems which the employer too experiences, which problems likewise may be formidable.

Medical Division,
Employee Relations Department

Do We Need More Medical Schools?

HERBERT BERGER, M.D., F.A.C.P., Tottenville, Staten Island, New York

The Surgeon General of the United States Public Health Service has recently stated that there exists a serious deficiency in the number of physicians in our country. This conclusion was reached primarily on demographic tables indicating that there were more physicians per unit of population in 1900 than in 1960. It has been suggested that in order to maintain a ratio of one hundred and thirty-two physicians per one hundred thousand people, ten thousand doctors should be graduating each year by 1970. There are about eight thousand, two hundred places in the existing medical schools and about seven hundred and fifty are added each year from foreign sources.

We are advised that the high cost of medical education, the paucity of scholarships, the attraction of other sciences, the high salaries offered college graduates and early marriage are some of the factors contributing to this alleged shortage.[1]

Before we commence the costly erection of many new medical colleges ($600,000 for each additional student in the past five years) and the expansion of existing institutions these allegations should be examined carefully.

The year 1900 is an unfortunate one for comparative purposes. Prior to the Flexner report, in 1910, there were about five hundred medical schools in the United States. So poor were they, that the introduction of the minimum standards for medical schools promulgated by the American Medical Association caused the closing of approximately eighty percent of them.

Obviously those who graduated after this period from the remaining superior schools

Dr. Berger is Director of Medicine, Richmond Memorial Hospital; Cardiologist, Seaview Hospital; Consultant, U. S. Public Health Service; Consultant, N. Y. State Department of Mental Hygiene; Consultant, N. Y. City Department of Correction; President, New York State Society of Internal Medicine; Past President, Richmond County Medical Society; Past President, Richmond Memorial Hospital; Past President, First District Medical Society of the State of N. Y. and Past Vice President, Medical Society of the State of New York.

1. J.A.M.A., Editorial, Vol. 174, No. 11, P. 1528.

were better prepared. Two poor doctors are not as valuable to a community as one good one. In fact, a strong case might be made to prove that no doctor is less dangerous than a bad one. This type of comparable statistics is very much like such figure juggling as the proposition that if one ship takes five days to cross the ocean, then five ships can cross in one day!

However, there is no doubt that even if a year after 1910 is chosen for comparison, there are less doctors per unit of population now.

In fact, the situation is even worse than the figures would indicate. Many counted in the statistics are not really in actual practice, because these physicians are still in residency training or serving in the armed forces. Others have been diverted into full time teaching or into full time research. Whether some of our medical schools are overemphasizing these latter aspects of medicine at the expense of patient care as a career is a debatable subject which need not be explored here. The facts are, however, that the numbers of physicians that are not caring for the sick is significant. Therefore, present figures based on the number of holders of an M.D. degree per one hundred thousand people is a maximum rather than an accurate figure.

To compound the situation further, there is not only a frightening diminution in the number of applications to the medical schools, but even more serious is the fall in caliber of the matriculants. At a meeting of the New York Committee on Internships and Residencies, the Deans of our local medical schools reported that ten years ago almost half of all who sought admission to their medical schools were "A" students. In 1958, less than fifteen percent fell into this category![2] The reasons for this have already been alluded to. A young man facing medical school, internship, residency and service in the armed forces will reach the mid-thirties before he begins to practice. Establishing himself in a specialty may take longer than making a beginning in general practice. Small wonder that many turn to other fields. The threat of socialization and the poor "press" with which our profession has been plagued lately are probably additional factors which mitigate against their choice of a medical career.

Before we are moved to precipitate action, let us examine the obverse side of the coin. Many factors have served to make it possible for one physician to do the work of several of his forebears.

Fifty years ago, a ten-mile trip to a patient's bedside by horse and buggy took the greater part of a day. Modern automobiles and excellent roads conserve the physician's precious minutes, so that he has more time to treat the sick.

The telephone, likewise, saves more hours. Patients on some occasions may be advised by this medium to take action that will make a personal visit unnecessary. This device makes it possible for physicians to be reached everywhere, even in their cars, so they do not sacrifice valuable hours in needlessly retracing their steps.

More of the people own, or have access to, automobiles, so that patients are more frequently transported to the doctor's office. Consequently, physicians find themselves making only a fraction of the number of house calls made twenty-five years ago.

The efficient office that today's physician works in makes it possible for him to spread his talents to ever greater numbers of patients in the same unit of time. The ubiquity of hospitals and their availability through the medium of hospital insurance, concentrate the physician's sickest patients under one roof. The ancillary professions of nursing, pharmacy, physiotherapy and social service all function in areas in which the physician once acted himself.

The diagnostic services of the laboratory, (the radiologist, the cardiographer, encephalographer and pathologist) all help him reach an accurate diagnosis more rapidly. Not only is there effected considerable time-saving, as other physicians or technicians perform these all important tasks for him, but also there is a further

2. Long, P. H: Medical Times, Vol. 88, No. 10, Oct. 1960, P. 1222.

conservation when the properly recognized illness yields more readily to appropriate treatment.

The fantastic advances in therapy which, for example, substitute a few injections of an antibiotic for a worrisome vigil while waiting for the crisis in lobar pneumonia, emphasizes even more dramatically how modern medical practices make a 1961 physician's minute worth many of his predecessor's.

Certainly, such data would equate one modern physician with several of his colleagues of a half century ago. Now the demographic charts referred to above do not seem to portend quite so dire a situation. Therefore, our sights of finding two thousand additional graduates by 1970 may have been set too high. If we have a problem at all, it is actually much smaller, unless our country embraces complete socialization. Should this ideology be adopted we will need not ten thousand graduates yearly, but a multiple of this figure. England's National Health Scheme increased the utilization of physicians by some three hundred percent. Some of these additional calls were justified. Many obviously, were not.

Dovetailing premedical and medical education so as to shorten this period by one or two years, an experiment which Johns Hopkins has initiated, demands careful study.

Four-month summer vacations were originally instituted so that students could help their parents with farming. From high school commencement to medical school graduation, there are eight, four-month vacations. Almost three years of wasted time. A practicing physician with his long hours and grinding responsibilities has, by contrast, difficulty in arranging two weeks of rest a year. Yet we provide young people in their prime with four months in the summer and perhaps another month at Christmas, Easter and other holidays. Our costly educational plants stand idle one-third of the time. Could industry afford such wastefulness? The abolition of four months of vacation a year would add fifty percent more physicians without spending a dollar for capital improvements. Even more important is the truism that, while a medical school might be built in three to four years, it takes twenty-five to build a professor who must be recruited in turn from the ranks of those who should be caring for the sick.

Teachers who elect to work the full year through, naturally, deserve a fifty-percent increment in their salaries. Whether the faculty should do more teaching and less research on school time is another debatable matter which will not be discussed here.

Such a scheme would provide the universities with fifty percent more alumni who could be called upon to help support these expensive educational facilities.

Were general practice to be reemphasized with orientation of the schools towards the training of family doctors, rather than preparing graduates for careers in research, teaching and specialties; were hospitals, the community and the medical hierarchy to give full recognition to the all-important role of general practice, then at least two more years could be saved. The two-year rotating internship could be substituted for the four, or five, or more years now spent in residency training. This plan could become operative at once, if the boards made several years of general practice mandatory prior to the commencement of specialist training. Such a move would serve several useful purposes.

Physicians would enter practice earlier and, as a consequence, could become self sufficient that much sooner. General practice offers an invaluable opportunity to study, not only disease but, even more important, people. It would help the young physician to find his true

ABOUT THE AUTHOR

The author is a practicing internist who served for a number of years on the New York Committee for Internship and Residencies, as the representative of the five County Medical Societies in New York City. He states that "These suggestions do not necessarily represent the thinking of that body (the Committee). . . . "

interests and aptitudes so that he might be better able to choose either to stay in the challenging field of the generalist or to enter that specialty for which he is best fitted.

The transition from general practice to specialty should be rendered easier by providing the family doctor with the opportunity for part time study and residency. Even if a three-year residency were to take six years by such means, the specialist in training could still have some income during these years. He would certainly be a motivated physician indeed to even attempt this difficult step. To his specialty he would bring not only the knowledge of disease gained at the bedside, but something infinitely more precious . . . experience and maturity.

In conclusion, the application of some or all of these principles might make medicine attractive again to an even greater number of our college students. Such a program, without building a single new expensive medical installation, would bring to the public what they really want . . . a large number of *personal* physicians who have at their command a coterie of highly motivated, well-trained specialists.

7440 Amboy Road

ELEANOR ROOSEVELT CANCER FOUNDATION AFFILIATES WITH AMERICAN CANCER SOCIETY

The Board of Directors of the American Cancer Society at its recent meeting in Seattle, Washington, approved the affiliation of the Eleanor Roosevelt Cancer Foundation with the American Cancer Society, a step which in the opinion of both organizations, reduces the multiplicity of organizations and appeals in the cancer field, and also strengthens the cancer control movement. The affiliation becomes effective September 1, 1961.

In a second action of importance, the Directors agreed by resolution, to join with the National Cancer Institute of the Public Health Service in 1962 to celebrate twenty-five years of progress in the area of studies on cancer. The purpose of the Cancer Progress Year will be "to report to the public on where science now stands in cancer research, to intensify the efforts being made to persuade the public to act for its own protection, and to step up all programs to speed the final victory over cancer."

Control of HYPERTENSION *With Hydrochlorothiazide and Deserpidine*

In an effort to control benign essential hypertension in twenty-five patients who had concomitant complications, the author had previously resorted to various antihypertensives. These included diuretics, tranquilizers and other agents administered singly or in combination. Since these patients were, for the most part, elderly, and had been afflicted with hypertension and other complaints for an extended period of time, a holistic approach to therapy was observed whenever possible. Of all the agents or combinations tested, one combination, consisting of hydrochlorothiazide and deserpidine, showed remarkable capacity for giving relief not only from the hypertension involved but also for associated complaints.

HENRY A. CROMWELL, M. D., Houston, Texas

This study was undertaken after review of the literature on the comparative effects of the various rauwolfia alkaloids. Travis Winsor[1] compared deserpidine with three other alkaloid preparations (reserpine, alseroxylon, and rescinnamine) and concluded that deserpidine gave similar hypotensive benefits with less side effects. Achor, Hanson and Gifford[2] noted similar effects. Nickell and Ford[3] observed that hydrochlorothiazide was superior to chlorothiazide, acetozolamide and other oral intramuscular diuretics.

Reinhardt,[4, 5] Becker,[6] Rochelle,[7] Ford and others have shown that chlorothiazide, or its derivatives, administered with a rauwolfia alkaloid produced good results, notwithstanding the observations that Freis[8] made that some patients developed lethargy and depression.

While the author's previous observations confirmed such unhappy experiences of extreme lethargy and depression occurring in patients on rauwolfia alkaloids, the absence of any reports

Dr. Cromwell is Assistant Professor Clinical Medicine, Baylor University Medical School.

of these side effects in patients on this combination of hydrochlorothiazide and deserpidine encouraged the pursuit of this investigation.

Technique

Twenty-five patients ranging in age from forty-five to ninety years, whose chief complaint was generally benign essential hypertension, but who had contributing complaints, were treated with a combination of hydrochlorothiazide and deserpidine.* A few of these patients had no specific treatment, some had no treatment for a given interval, while others with unsatisfactory treatment were transferred to this combination. Inasmuch as adequate studies were conducted previously, no chemical studies were made. Prior to initiation of present treatment, all previous medication was suspended. Blood pressure readings were taken before and after treatment. Three readings were taken at each visit using the patient's left arm while the patient was in a sitting position. Prior to administration of this combination, they were given a diagnostic study which included a thorough history and physical examination, electrocardiogram and x-ray of heart.

When indicated, clinical laboratory studies were made. Patients who were seriously ill were given daily weight, blood pressure and pulse readings until out of danger. Dosage consisted of a combination of hydrochlorothiazide and deserpidine in ranges of 50 mgms. of hydrochlorothiazide and 0.125 mgm. of deserpidine or 25 mgms. of hydrochlorothiazide and 0.125 mgm. of deserpidine three times daily, depending upon the severity of illness and height of blood pressure. Upon improvement, dosage was adjusted to two-a-day or one-a-day as indicated. Duration of time of medication ranged from four weeks to seven months. These patients were then carefully screened systematically at the two-week interval for hypotensive effect. As the blood pressure readings approached normal, the dosage was accordingly reduced to that required to maintain a normal blood pressure reading.

* Supplied as Oreticyl® by Abbott Laboratories, North Chicago, Illinois.

Case Histories

1. A ninety-year-old, white, female with long history of hypertension, troubled by recurrent dizzy spells and headaches. "Blackouts" were frequent. Patient's initial blood pressure was 280/160, weight was seventy-eight pounds. Previously treated with Raudixin® and Serpasil,® sedation and salt restriction. The blood pressure control was fair however, with numerous complaints of side effects. Oreticyl® "25" t.i.d. reduced later to one tablet daily, held the blood pressure to 180/100 without any side effects. The weight remained the same.

2. A seventy-five year-old, white, female with pleural effusion in right chest and congestive heart failure. Initial blood pressure was 190/100, weight one hundred and fifty pounds. Previous treatment was with Serpasil and Apresoline.® She was put on Oreticyl® "50" t.i.d. and after effusion cleared was reduced to one tablet daily. Blood pressure was stabilized at 140/75. She now works forty hours a week as a cosmetic consultant, is energetic, active and in excellent spirits.

3. A fifty-eight year-old, white male, arteriosclerotic, old sympathectomy case with thrombosis of right retinal artery and loss of seventy-five percent of vision. Initial blood pressure was 240/140 and weight of one-hundred, ninety-one pounds. Only treatment he had previously was for the thrombosis of right retinal artery. He was placed on Oreticyl "50" t.i.d. His blood pressure stabilized at 150/90 with weight reduction to one hundred, eighty-four pounds and showed an improvement in his ECG. with a marked lift in spirits.

4. A fifty-six year-old, female with an old coronary occlusion, arteriosclerosis, and post menopausal syndrome. Her blood pressure was 180/100 and weight one hundred, thirty-one pounds. Previously treated with Serpasil and Apresoline, Vallestril,® and Metamine® Sustained. She was given Oreticyl "25" b.i.d. and her pressure was reduced to 130/70, with no side effects. Her

ECG showed improvement and she has had no return of coronary insufficiency or angina.

5. A fifty-year-old, Negro, female severe psychoneurotic with blood pressure of 180/110, weight one hundred and forty pounds. Previously treated with phenobarbital one-half gr., t.i.d. She was given Oreticyl "50" b.i.d. Her blood pressure reduced to 150/90 with general improvement. Patient was uncooperative and discontinued her medication after one month despite her improvement.

6. A fifty-six year-old female, menopausal syndrome, obesity, anxiety state, cholecystitis and uncontrolled neurodermatitis. Blood pressure 150/100, weight two hundred and six pounds. Previous treatment with Diuril,® Temaril® and Nardil®. She was given Oreticyl "50" b.i.d. with no side effects and blood pressure stabilized at 112/80 with weight reduction to one hundred, ninety-two pounds. Her ECG improved and heart sounds had a better quality. The neurodermatitis completely cleared in one month and has remained cleared.

7. A sixty-year-old, Negro, female with angina pectoris, nocturnal dyspnea and dependent edema, basal pulmonary congestion and liver tenderness. Pressure was 180/100 and weight two hundred and thirteen pounds. She had been previously treated with T.N.T. She was given Oreticyl "50" b.i.d. With stabilization of pressure at 120/78, improvement in heart sounds and no further angina, no nausea, vertigo, dyspnea or swelling of ankles, she is asymptomatic, happy and energetic.

8. A fifty-two year-old, male, white, with coronary arteriosclerosis and insufficiency, blood pressure of 170/100, weight one hundred, fifty-six pounds. Previously treated with Serpasil and Apresoline. He was given Oreticyl "50" one tablet daily and with his pressure stabilized at 130/78, his ECG now essentially normal, he is tranquil, doesn't get upset and of a happy disposition.

9. A fifty-year-old Negro female, with congestive heart failure, obesity, tension state and menopausal syndrome. Her blood pressure was 200/120, weight two hundred four pounds. Previously treatment included Serpasil, Phenobarbital and Tentone.® She was given Oreticyl "50" daily with no side effects. Her blood pressure stabilized at 130/82, her weight reduced to one hundred, ninety-six pounds and she now does her house work with ease and has no complaints and has marked improvement in spirits and energy.

10. A forty-seven year-old, white, male with obesity, albuminuria, blood pressure 190/125, weight two hundred and fourteen pounds. No previous treatment. He was placed on Oreticyl "50" b.i.d. with no side effects. His blood pressure stabilized at 130/82 and his weight lowered to one hundred, ninety-seven. The quantitative albuminuria dropped from 1.3 Gm/L to 0.05 quantitatively and has remained there.

11. A forty-seven year-old, female with hypertension and menopausal syndrome not controlled by her previous medication of Equanil® or Nardil. Blood pressure was 160/95 and weight was one hundred, forty-one pounds. She was given one Oreticyl "25" daily with no side effects and blood pressure stabilized at 122/78. She now has a brighter outlook on life.

12. A fifty-nine year-old, white male, with angina pectoris, enlarged heart and blood pressure of 180/100. Previously treated with Raudixin. Placed on Oreticyl "25" b.i.d. Pressure stabilized at 140/72 with markedly better mental outlook. Weight remained at one hundred, ninety-three pounds.

13. A seventy-six year-old male with blood pressure of 180/100. Carcinoma of the larynx removed recently. Weight one hundred, seventy-two pounds, no change. Only treatment had been Miltown.® He was given Oreticyl "25" t.i.d. His pressure stabilized at 140/84 with a commensurate slower heart rate. His spirits have improved along with his general well being.

14. A forty-nine year-old, white, male with angina pectoris and "smothering attacks." Pressure was 170/110, weight two hundred, twenty-seven. With Oreticyl "25" t.i.d., his pressure stabilized at 130/78. All complaints were relieved and he has improved physically with a brighter mental outlook.

15. A fifty-two year-old, white, female

with coronary artery disease, menopausal syndrome, secondary anemia and blood pressure of 170/130. She was given Oreticyl "50" daily. The blood pressure stabilized at 120/78 without side effects. She sleeps well now and has no further headaches or vertigo.

16. A seventy-three year-old, white, female with congestive heart failure, obesity, a blood pressure of 260+/130 and weight of one hundred, seventy-nine pounds. She was given Oreticyl "50" t.i.d. and her blood pressure stabilized at 170/90. The congestive failure cleared completely. Was indolent and apathetic. Mental outlook now excellent.

17. A forty-five year-old, white, female with menopausal syndrome and nucleus pulposus who was bedridden with pain. Blood pressure was 170/110, weight one hundred, twenty-eight pounds. Previously treated with Miltown and Thorazine.® She was given one tablet Oreticyl "50" daily. Her blood pressure stabilized at 128/82 with no change in weight. In three weeks, her pain was cleared and she was able to make a trip to the Far East, returning in excellent condition.

18. A seventy-four year-old, white, female with angina pectoris, gout and general arteriosclerosis. Blood pressure was 170/100, weight one hundred, forty-three pounds. Previously treated with Metamine and Miltown. She was given one Oreticyl "50" daily. Blood pressure stabilized at 138/72. No change in weight. Has had no further angina pectoris, gout was arrested, no increase in blood uric acid and improved in spirits and energy.

19. A forty-seven year-old, white, female with essential hypertension, menopausal syndrome and a drinking problem. Blood pressure was 170/110. She was given one Oreticyl "25" daily and blood pressure stabilized at 120/80 with associated general improvement.

20. A fifty-four year-old, white, female with essential hypertension, menopausal syndrome, diverticulitis and hypothyroidism with no previous treatment. Blood pressure was 170/75 and weight one hundred, thirty-nine pounds. She was given Oreticyl "50" daily and blood pressure stabilized at 130/70, weight reduced to one hundred, thirty-one pounds along with a marked improvement in energy and spirits. She stated: "I feel like a new person."

21. A sixty-four year-old, white, male with coronary insufficiency, passive congestive failure, obesity and carcinoma of the prostate. Blood pressure was 180/100, weight two hundred, twenty-one pounds. No previous treatment. He was given Oreticyl "50" and blood pressure stabilized at 130/70 with weight reduced to two hundred twelve pounds and general improvement.

22. A forty-six year-old, white, female with essential hypertension, menopausal syndrome, Hashimoto's disease, with no previous treatment. Blood pressure was 150/90, weight one hundred, forty-three pounds. She was given one Oreticyl "50" daily. Blood pressure stabilized at 120/80 with general improvement and marked increase in spirits and energy.

23. A sixty-four year-old white male with coronary insufficiency and bundle branch block. Blood pressure was 180/110, weight one hundred and eighty pounds. Previously treated with Raudixin. He was given Oreticyl "25" b.i.d. and blood pressure stabilized at 160/90 with no side effects.

24. A fifty-year-old, white, female with essential hypertension and menopausal syndrome. Blood pressure was 150/95 and weight one hundred, thirty-nine pounds. Previously treated with Miltown and Nardil. She was given one Oreticyl "50" daily and blood pressure stabilized at 124/70 and weight reduced to one hundred, twenty-nine pounds, with marked general improvement in spirits, etc.

25. A fifty-one year-old, white, female with menopausal syndrome and anxiety state with depressive features. Her blood pressure was 180/100, weight one hundred and thirteen pounds. Previously treated with Nardil and Thorazine. Blood pressure stabilized at 128/78 on Oreticyl "25" t.i.d., with tension relieved and an increase in general well being.

Results

In each case, there was a drop in blood pressure with loss of weight within twenty-four hours due to the diuresis. In almost all patients, there was a slowing of the heart rate without adverse effect on the patient. Unlike the author's previous experience with rauwolfia alkaloids, there was no evidence of depression. In fact, the exact opposite resulted with almost all patients developing a feeling of euphoria. Patients previously maintained on coronary dilators were able to get along without them while on this treatment and showed no recurrence of angina.

- An indigent 75-year-old woman, who had the right chest full of fluid and who had collapsed on the street, was given 50 mgms. of hydrochlorothiazide and 0.125 mgm. of deserpidine three times daily (with digitalis and encouragement) and recovered remarkably. No thoracentesis was done on her; nevertheless, she eliminated all excess fluid from her chest and is able to work a full forty-hour week as a cosmetic consultant. Moreover, she is in excellent spirits and is dynamic.

- A woman patient, 50-years-old weighing nearly 207 pounds, was given a general diagnostic workup. In addition to her obese condition, she suffered from a very troublesome allergic dermatitis. Despite vigorous therapy, it was recurrent. Prior to treatment with this combination, her blood pressure was 150/100 mm.Hg. After treatment, her blood pressure was reduced to 112/80 mm. Hg. and her weight dropped to 182 pounds. In addition, her resistant dermatitis cleared up completely. Her previous indolent attitude has been replaced by a more optimistic outlook, and she is able to rest better.

- An executive, 47-year-old who weighed nearly 214 pounds, complained of fatigue, irritation and showed albuminuria and was unable to address any group for a length of time. When placed on hydrochlorothiazide-deserpidine therapy, he reduced his weight to 197, decreased his albuminuria quantitatively from 1.3 to 0.05 Gm. per liter and maintained a blood pressure of 130/80 mm.Hg. from an original one of 190/125 mm.Hg. He is more relaxed now and able to carry on a protracted address before a group.

In addition to these benefits, this combination improved or eliminated symptoms associated with the menopausal syndrome, reduced tension and associated psychosomatic complaints, and in one particular patient, who had been operated for a ruptured disc previously, cleared up persistent symptomatology. It is interesting to note that the use of this medication facilitated the holistic approach in the treatment of angina. Moreover, cardiovascular complications were reduced or ameliorated with greater facility.

Side Effects

In general, the only side effects noted, occurred in a few patients, who were started on heavy doses three times daily. Their chief complaints were ataxia, numbness of hands, loss of finer movements and slurring of speech. This was adjusted by suspending medication for twenty-four hours and administration of forced fluids. These patients were then given either 50 mgms. of hydrochlorothiazide and 0.125 mgms. of deserpidine or 25 mgms. of hydrochlorothiazide and 0.125 mgms. of deserpidine in combination form three times daily as warranted. Later they were maintained on a two-a-day or one-a-day tablet regimen.

Summary

Competent control of benign essential hypertension may be effectively attained by use of a combination of hydrochlorothiazide and deserpidine.

In addition, associated concomitant complaints may be eased or eliminated. The following observations were noted in this study:

1. Immediate (twenty-four hours) reduction of blood pressure and weight by diuresis was observed in all patients.

2. Patients previously receiving coronary

dilators were satisfactorily maintained without this form of therapy while on this regimen.

3. The holistic approach facilitated therapy for those suffering from angina.

4. Diminished albuminuria was observed in one patient.

5. A patient with resistant neurodermatitis was completely cleared of this condition.

6. This therapy eliminated the residual symptomatology in a patient with a history of surgical repair of a ruptured disc.

7. Amelioration or elimination of menopausal syndrome occurred in some patients.

8. Relief from psychosomatic complaints was commonly observed.

9. Marked improvement was seen in tension states.

10. Virtual freedom from side effects facilitated patient-physician rapport.

11. Flexibility and competence of the regimen permitted a wide divergence of complaints to be treated on an ambulatory basis.

References

1. Winsor, T.: Comparative Effects of Various Rauwolfia Alkaloids in Hypertension, Dis. Chest, 35:415, April 1959.

2. Achor, R. W. P., Hanson, N. O. and Gifford, R. W. Jr.: Hypertension Treated with Rauwolfia Serpentina (Whole Root) and with Reserpine: Controlled Study Disclosing Occasional Severe Depression, J.A.M.A., 159:841, October 29, 1955.

3. Nickell, J. and Ford, R. V.: Clinical Pharmacologic Observations on Oretic, A New Orally Active Diuretic Agent, Current Therapeutic Research, 1:26, September 1959.

4. Reinhardt, D. J., III: Experience with Chlorothiazide (Diuril) in Hypertensive Patients, Delaware M. J., 31:44 February 1959.

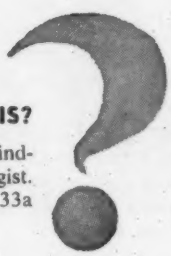
5. Reinhardt, D. J., III: The Impact of Chlorothiazide (Diuril) on Therapy in Arterial Hypertension, Delaware M. J. 30:1 January 1958.

6. Becker, M. C., et al.: Chlorothiazide as a Diuretic and Hypotensive Agent, J. M. Soc. New Jersey, 55:427, August 1958.

7. Rochelle, J. B., III. and Ford, R. V.: Potentiation of Antihypertensive Therapy by Use of Chlorothiazide, J.A.M.A. 168:410, September 27, 1958.

8. Freis, E. D., Wilson, J. M. and Parrish, A. E.: Enhancement of Antihypertensive Activity with Chlorothiazide, Circulation, 16:882, 1957.

5000 Montrose Boulevard



WHAT'S YOUR DIAGNOSIS?

Read the film and compare your findings with those of a top radiologist.

SEE PAGE 33a

The Multiple Handicapped Child —A PRODUCT OF IMPROVED MEDICAL CARE

The ability of the obstetrician to bring prenatally-defective children into the world, and of the pediatrician to preserve their lives and promote their growth has outdone, for the time being, the ability of medical science to prevent their deficiencies, and of educators to know how to handle them with the facilities available.

BEN E. HOFFMEYER, M.A.
Morgantown, North Carolina

During the past twenty-five years, much progress has been made in the field of special education. The obviously handicapped—the deaf, the blind, the mentally deficient, the orthopedic cripples, and the mentally superior—were the first to be recognized as needing special services, and the terms "exceptional children" and "special education" are associated with such deviates and used loosely to describe them.

Educationally speaking, this is specialization. Children with poor eyesight or total blindness are allowed to go to schools for the blind, or to special classes for the blind, which have teachers specially trained to educate such children. Children having partial or profound hearing losses may go to schools for the deaf, or classes for the deaf, which have teachers specially trained to give these children the maximum opportunity for education. More recently, classes and institutions, both public and private, for the mentally retarded, and the mentally superior are springing up nationwide.

These were, and still are, giant steps in educational progress. However, we are now in an era when specialization must be specialized!

The North Carolina School for the Deaf, in Morganton, which is a typical residential school for the deaf, is one of the largest in the United States.

There are 509 students enrolled from the ages of five to nineteen years. Due to this large enrollment, and due to the fact that the children come from both urban and rural areas with varied economic backgrounds, it seems that it would be safe to assume that these

students would be nearly typical of the deaf in schools in all parts of the United States.

Among this large group of deaf children are many children with at least one other handicap in addition to deafness. This school, and other special schools, are faced with the problem of educating these multiple handicapped children, who some years ago might not have survived, but who today are very much alive. Their parents expect, as they should, educational programs to fit the problems of these children.

Any doctor, educator, parent or scientist, who has come in close contact with the education of children having profound deafness from early life, knows that this is one of the most difficult educational problems known. Educators must then expect that to meet the needs of these deaf children having other handicaps will present even greater educational challenges.

At the North Carolina School for the Deaf, with approximately 500 deaf and severely hard-of-hearing children, there are children with these various other handicaps:

1.	Mentally Retarded Deaf	40
2.	Cerebral Palsied Deaf	20
3.	Orthopedic Deaf	9
4.	Cleft Palate—Hairlip Deaf	2
5.	Epileptic Deaf	3
6.	Emotionally Disturbed Deaf	25
7.	Severely Visually Handicapped Deaf	15
8.	Cardiac Deaf	3
9.	Brain Damaged and/or Aphasoid Deaf	16
10.	Others	10

Please notice a relatively small number listed under brain damaged and/or aphasoid. This is certainly too low, but only sixteen were professionally diagnosed as such. Many more have symptoms, but have not been thus medically diagnosed, since diagnostic facilities are limited. Some authorities now believe that as high as seventy percent of the deafness or acoustic distortion in students in schools for the deaf results from auditory deprivation due to trouble in the central nervous system, rather than damage in the conductive mechanism or inner ear. To know the type of hearing impairment is very important. The educational approach has to be altered, since the learning process of a child with a central nervous system deafness is quite disturbed. The child with peripheral deafness (middle or inner ear deafness) presents a more consistent pattern of learning. Peripheral deafness can be more easily evaluated. These children like to listen to what they hear, and can learn to understand and interpret through amplification. If the child is profoundly deaf, amplification may not be beneficial; yet the child can learn language and develop usable speech and lip reading through regular methods of teaching the deaf. Those who are "non-oral" learn to read and write language and depend on written or manual communication.

The methods which are in general use in schools for the deaf in the United States were designed to meet the needs of the child with peripheral deafness. The same methods seldom adequately fit the child with central nervous system deafness.

Dr. William G. Hardy, Director of Hearing and Speech Center, Johns Hopkins Hospital, made the following evaluation of deafness due to damage in the central nervous system:

"When the trouble lies in the central system, assessment is limited, for an accurate measurement is almost impossible. At stake here are

ABOUT THE AUTHOR

Mr. Hoffmeyer is Superintendent of the North Carolina School for the Deaf since 1955; Assistant Superintendent 1954-55; Principal, N. C. School for the Deaf 1947-55. Teacher, South Carolina School for the Deaf for two years. B.S. Major Special Education, Washington University, St. Louis, 1941; Master of Arts, Gallaudet College, Washington, D. C., 1947. Member, Board of Directors, American Instructors of the Deaf. Currently Secretary, Conference of Executives of American Schools for the Deaf.

serious problems in the transmissive and decoding mechanisms of the auditory system, both afferent and efferent. There may well be inconsistent variations in pitch, in loudness, or in both, whereby acoustic information is a highly unstable source of experience for the child. Not uncommonly, there are other involvements, in visual relationship, in temporal patterns, in memory for symbolic reference and association, and the like. Decibel notation is quite useless in describing these problems. The question is not 'how much' but 'how' does the child perceive sound. As this question can be answered by evaluating parental observations, by meticulous attention to the details of the child's developmental coordination and behavior, and by observing his responses in both general and highly structured clinical test-situations, including electrodermal and other conditioning tests, then one may obtain much useful information about what parts of the mechanism are damaged, what parts are operating reasonably well, and what the residual picture is, or may become. We find that gross observation of responses to sound, or to pure tone audiometry of any sort, are useful, but only limited, tools. They are gross.

It is necessary to test the child in various highly structured situations, both in a measured soundfield and electrodermally, or by electroencephalographic means, in order to assess the location of the problem. To this should be added persistent reassessment in terms of paternal observations, and in terms of the child's growth and development. Some children with central impairment have only a loudness-deficit; with appropriate amplification they can learn to hear very well. Some have relatively little trouble with loudness, but cannot discriminate the details of pitch in sounds with complex harmonics, such as speech sounds. Some can interpret relatively simple sounds, but cannot assimilate sound in continuity, as with normal connected discourse. Others have organic listening problems; once alerted, they can learn to discriminate, but often need amplification as an attention-centering device. The critical point is to learn as early as possible how a child reacts, or fails to react, to various environmental, auditory stimuli."

There are cases of deafness, or conditions in which the child ignores acoustic stimulation. These are known by names, such as psychogenic, or psychologic deafness. Certainly, these are difficult to diagnose and psychiatric and psychological help is often necessary to determine the cause of the inhibition, and of the emotional withdrawal from the world of sound.

The aphasic child, or as some prefer to call him, the aphasoid child, is often mistaken for the deaf child. Usually this condition exists concurrently with one of the central auditory problems. More specifically, there are two main types of aphasics: the *expressive* type, where the child hears and understands, yet cannot reproduce speech; and the *receptive* type, where the child does not receive speech as such, but receives it only as a noise. The expressive aphasic, sometimes referred to as the motor aphasic, can be described as a one-way telephone. He receives the message, but is unable to give it back. The receptive, or sensory aphasic, does not receive speech as such, but simply as a noise.

A visual aphasic involvement can cause inability to associate ideas (symbols) with lip movement. This is perhaps the reason that some deaf children never learn speech by lipreading, which is symbolic. There are also a few who are not able to associate ideas with lip movement or manual language.

Dyslexia is an aphasic symbolic disorder causing inability to associate experience with written words. Auditory agnosia is a generalized disorder causing inability to associate meaning with any sound.

These handicaps of these children are sometimes very difficult to diagnose. They appear normal in many instances and, because of their inability to learn, are put in classes for the mentally retarded. They sometimes show no motor involvement. They often come from intelligent parents and have siblings of normal mentality. To further complicate the situation, there is no history of brain injury, before, during, or after birth, and no neurological signs

present which could indicate a brain lesion. An electro-encephalogram usually indicates brain damage in these children, but in some cases it has not done so.

The multiple handicapped child has become a concern in all fields of special education. Schools for the deaf, the blind and the mentally retarded are encountering an increase in the multiple handicapped. The trend is alarming, and more and more professional meetings are centering their thoughts and efforts toward a solution. Certainly standard methods have to be altered and goals for these children have to be reassessed.

The multiple handicapped, those children with two or more educational and social deprivations, need help today, and the medical, psychological, psychiatric and educational fields are caught unprepared to supply their maximum needs. When society is being challenged to provide minimum requirements for general education of the normal child, certainly special education will have to fight hard for its place in the educational tomorrow.

Observations

1. Concentrated research on the brain is needed for it holds many secrets to the learning problems for the exceptional child.

2. More diagnostic facilities are of urgent need.

3. Present special educational facilities must be expanded and diversified to fit the needs of the atypical child.

4. Administrators and teachers must broaden their understanding and methods to fit the individual child. Too often they are enslaved to one approach, one method. They must dare to experiment.

5. Teachers of the multiple handicapped will need training in more than one field.

6. Team approach to the child must be used. The doctor, the psychologist, the psychiatrist, the neurologist, the teacher, parents and all others who can and do influence the child; must work together.

References

1. Hardy, W. G.: The Assessment of Hearing in Children and an Interpretation of the Findings . . . International Congress on the Modern Educational Treatment of Deafness, University of Manchester, 1958—Published—The Volta Bureau, Washington, D. C.

2. Myklebust, H. R.: The Deaf Child with Other Handicaps—American Annals of the Deaf, Vol. 103, No. 4, 1958.

3. Myklebust, H. R.: The Psychology of Deafness—Grune & Stratton.

4. Doctor, P. V.: Multiple Handicaps in the Field of Deafness—Sixth Annual Conference on Problems of Hearing and Speech—Syracuse University, 1951.

North Carolina School for the Deaf

MEDICAL TEASERS

A challenging crossword puzzle for the physician.

SEE PAGE 53a

CERTAIN CONSIDERATIONS IN THE

PSYCHOTHERAPY of the ALCOHOLIC

MICHAEL M. MILLER, M.D., Washington, D. C.

In spite of the voluminous literature available on the subject of chronic alcoholism, considerable confusion and misconception still prevail concerning the nature of this condition. Chronic alcoholism has often been referred to as a disease, as a particular symptom syndrome or entity. I would like to postulate that alcoholism is basically a symptomatic condition and is a result rather than a cause.

Although alcoholism can give rise to considerable secondary damage to the physical and mental health and welfare of an individual, as well as to those close to him, alcoholism in itself is generally based on deeper underlying personality disturbances. There are undoubtedly as many causes for alcoholism as there are for human unhappiness. Therefore, it is obvious that no approach to treatment can be ultimately successful, unless these causative factors are resolved.

Anyone who is familiar with the pharmacological effects of alcohol can, to a certain extent anticipate, which needs of human beings can be met by this drug and what the patient may be seeking when he drinks. He may desire relief from feelings of inferiority and an inadequate self concept or a release from pent up, repressed emotions and impulses. Further, with alcohol he can release these without paying the penalty of the usual pangs of conscience, guilt, and fear. Very often, the individual has discovered that alcohol can lift him from a state of depression to a state of euphoria and grandiosity in which the impossible appears possible and fantasies appear as realities. The frightened passive little lamb becomes a roaring lion. He is now able to express rage and aggression which he could not do while sober.

Some drinkers are seeking an escape from loneliness and pain, and do not necessarily present any serious character difficulties or disorders. Certainly, there are certain circumstances in life where anyone might suffer from loneliness and pain, both physical and mental. Then there are patients who suffer from a variety of conditions such as stammering or stuttering. Very often, such people can speak normally after two or three drinks.

As a result of its unique effects alcohol, being such an excellent guilt and fear reliever,

---

Dr. Miller is Graduate in Medicine and Psychiatry at the University of Vienna Medical School and of the Wagner-Jueregg Psychiatric Clinic; Lecturer, Department of Neurology and Psychiatry, Howard University Medical School.

can trigger off the release of perverted, inverted, or repressed sexual impulses, so that under its influence the individual can, at least temporarily, attain erotic gratification. That alcohol plays an important role in sexual life was already known by Shakespeare who said, "It increaseth the desire but lessenth the performance." *Certainly the relief on anxiety and guilt tend generally to release greater sexual desire. As an alcoholic patient of mine once put it, "When I thought of sex I thought of drinking with the sex—like when you think of fried eggs you think of bacon with it. They were not one and the same but they always went together." I felt that I needed something to relax me to make me more proficient in my love making." Many individuals have sought to increase their lagging drive and performance by means of alcohol. Small amounts may often induce increased sexual performance, although larger amounts of alcohol generally act as a depressant of this function.

One of the commonest conditions that one finds associated with alcoholism is that of passive, unconscious, latent homosexuality, the mechanisms of which were first described by the psychoanalytic schools of Abraham and Freud. It is noteworthy that most male alcoholics are more concerned about men in trouble than about women, and generally show a greater desire to help members of their own sex. Such persons when drinking often congregate in bars with men and sometimes release homosexual behavior. Frequently, they achieve a sufficient amnesia so that they are not aware of their abnormal behavior.

Most alcoholics can be classed as oral neurotics in that they function primarily at an oral level. When they experience intolerable tension, they tend to regress to the reaction of an infant who is pacified by the mother with milk, a nipple, or the breast. The child thus gratified passes into a blissful Nirvana, and similarly the adult achieves escape from the cares and responsibilities of the real world by means of alcohol. In short, alcohol represents an oral pacifier.

Most alcoholics do not want to grow up, and tend to retain their infantile regression or fixation. They often resist taking responsibility for themselves or others and react to it as painful and anxiety producing. They prefer to be taken care of rather than to take care of someone. For example an alcoholic patient of mine became quite disturbed when his wife became ill and was unable to care for him in the usual manner. When she indicated that she needed his help and expected him to accept some responsibility, he became irritable and angry. In general, alcoholics want to receive rather than to give. Like little children, they are limited in their capacity to love, in that they seek love but cannot give it. Similarly, they seek dependence rather than independence, although subconsciously they tend to despise themselves for being dependent and admire independent people.

A principle reason for the alcoholic's dependence is the fact that most of them are children of critical, stern, and rejecting parents. Usually they are very easily offended and hurt, yet because of their severe rearing find it very difficult to assert themselves and retaliate. They swallow their hurt and resolve their inner bitterness with alcohol. Alcohol removes the sting of their sensitivity, and with it they become callous, thick-skinned, and even brutal in retaliation, releasing their anger and rage. I am reminded of an alcoholic patient of mine who had a critical, nagging mother. In the living room of his home were portraits of his parents. The mother's occupied the position of prominence over the mantel, while the father's was relegated to an obscure corner. One night while drunk the patient switched the pictures. Only while drunk did he dare to express his resentment against his mother. It is significant that when he sobered up he switched the portraits back. This illustrates the ambivalent behavior of the alcoholic. The lamb when sober can become a lion when drunk.

Alcoholics feel helpless, vulnerable, threat-

* From MacBeth, Act 2, Scene 3, Line 33 (the porter speaks).

ened without alcohol, and often have great difficulty in communicating or asserting themselves in a group. People may be threatening to them just as their critical parents were. Under the effects of alcohol, they generally become garrulous, communicating freely and thus deriving considerable pleasure and relief. In this state, they often perseverate a great deal, repeating words and phrases in a monotonous stream. Alcohol often provides them with a defense against painful or disturbing feelings and experiences by creating a screen of reduced awareness and an artificial amnesia.

Most alcoholics are basically egocentric. Thus even in the Alcoholics Anonymous sessions, they enjoy talking about themselves and alcoholics primarily. They like to consider themselves unique in a sense. This marked narcissism is usually characteristic of the alcoholic and even more of the drug addict.

Because the alcoholic jealously guards his damaged self esteem and childish pride, narcissistic injury often provokes deep resentment. Finding it difficult to externalize his anger, he then will resort to drinking, following which he is able to express more easily his aggressive feelings. Further, the alcohol provides relief from the mental depression which often results from the turning inward of his anger against himself. Alcohol may trigger off destructive reactions so that the alcoholic often unconsciously proceeds to harm himself by means of alcohol in a kind of masochistic reaction. By getting intoxicated and impairing himself mentally, physically, socially, and economically, the alcoholic is able not only to punish himself but others, i.e., his wife, mother, boss, etc. Bergler has pointed out the marked oral-masochism of alcoholic patients who are unconsciously fighting back at a rejecting mother. That they frequently incorporate sadistic as well as masochistic tendencies is evidenced by the fact that many alcoholics release sadistic behavior when intoxicated.

I have often found male alcoholics still unconsciously transfering toward their wives as though they were their rejecting, critical, nagging mothers. Toward them, they often act sullen, defensive, bitter, cold, and unaffectionate. Because of their hostility and resistance to the wife and mother figure, any attempt by them to pressure or coerce the alcoholic into treatment is usually doomed to failure. Such patients are more likely to accept treatment after a job or marital crisis or when they are mentally depressed and have reached a low ebb in the hangover phase.

A further indication of the alcoholic personality is the inability to carry out a responsible program of work or treatment, a marked ambivalence and inconsistency. They are frequently impulsive, not only about drinking, but about any decisions. Alcoholics frequently behave as though they are torn between strong opposing impulses, the familiar Dr. Jekyll and Mr. Hyde analogy. They seem to be in a state of flux, swaying from one decision to another, from feelings of independence to feelings of dependence, from submission to raging defiance. This ambivalence often presents a problem in treatment. For this reason the author believes that it is imperative that any such treatment program, particularly in the initial phases, should when possible be conducted under an enforced hospital regime. Alcoholics rarely will carry out commitments for treatment while they are in a disturbed neurotic state. Their limited insight poses a difficulty in obtaining their voluntary cooperation in treatment.

It is clear that alcoholism is damaging not only to the physical and mental health of the individual, but also to his family, job, and community relationships. Just as alcohol tends to cause a temporary regression to more primitive, archaic, infantile levels of behavior, its chronic use may result in irreversible personality regression. In such cases, the patient often shows definite signs of ethical and moral deterioration as well as intellectual damage. I have found the earliest indications of intellectual damage to be reduction in memory function. Of course, in these cases the prognosis is poor.

In view of the very extensive areas of damage resulting from drinking, it is obvious that any

plan for treatment must be broad in concept. In 1942, I presented a study on "The Ambulatory Treatment of Alcoholism," in the *Journal of the American Medical Association* (November 26, 1942) in which I proposed that a three-pronged approach to the treatment of the alcoholic is necessary: 1) medical treatment to restore the patient physically; 2) psychotherapy; 3) social rehabilitative measures. The physical restoration of the alcoholic, clearing a clouded sensorium, and sobriety and abstinence must be achieved before rational, understanding, therapeutic communication can be established. Without such communication any approach to therapy is impossible. A good rapport between the patient and therapist is absolutely essential. It not only furthers communication, but gives an incentive. Many an alcoholic has struggled for sobriety and maturity primarily because of his desire to please his therapist. Once the alcoholic patient is restored to a relative degree of physical health and the toxic damage alleviated, further treatment measures can be instituted.

After the patient has been sober for at least twenty-four hours, I put him through a conditioning process by means of hypnosis in which he is regressed back to and relives his most painful and disgusting hangover. This experience is associated with the smell and taste of alcoholic spirits so that a conditioned aversion-disgust reaction is created. The patient is thus conditioned under hypnosis for approximately six sessions within a period of two weeks, following which he may if possible receive a followup treatment every month for a ten-to-twelve-month period. This procedure, carried out generally on an ambulatory basis, is neither painful or dangerous, since no drugs are employed. In most cases, the resulting aversion, because of the markedly increased affectivity in the hypnotic trance, is much more effective than conditioning created by injecting nauseant drugs into the patient in the fully conscious state.

Following this conditioning process, or generally concurrent with it, the patient is put on group, or individual, psychotherapy, or both, in an attempt to resolve the underlying contributing emotional factors. Post-hypnotic sugtion can be employed frequently to further the patient's acceptance and participation in psychotherapy. While the patient is in the hypnotic trance, it is often possible to gain rapid insight into basic problems which may have contributed to his drinking.

The principle aim of the psychotherapeutic approach here is to aid the patient to achieve an adequate self concept in terms of becoming a social and responsible human being. As his emotional growth proceeds, he is more and more able to reach out socially in a constructive manner and this should be encouraged. He discovers that his former inability to relate successfully to others while sober was based on his deep-seated feelings of inferiority and his erroneous impression that others had a low estimation of him and were rejecting him as his critical parents did. He begins to project more positive attitudes, feeling that people can now accept and respect him. With increasing maturity, the patient shows greater capacity to externalize his interests toward other human beings and human problems, to develop a greater sense of social identity and belonging, and to turn his interest away from self. Therefore, the treatment of the alcoholic involves establishing a bridge to a social existence.

A history of parental rejection and being unloved is usually closely tied in with an inadequate self concept. The characteristic split in the personality of the alcoholic is created by the unconscious introjection of authoritative, rejecting, tyrannical, parental personality components. The tyrant from without becomes the tyrant from within. The monster is swallowed, and this tyrant from within then dominates much of the inner psychic life of the person. As an illustration, I would like to mention the case of an alcoholic patient, a forty-two year old male, who had been making poor progress in individual psychotherapy. It had been established that he was a very dependent, anxious person who still lived with his aged mother and was being supported by a welfare agency. He lacked initiative and drive, as well as the

competence required to earn a living. He was further lacking in masculinity to the extent that he avoided the opposite sex and was rapidly becoming a confirmed bachelor.

As a result of his great difficulty in communicating, I decided to try psychodrama in an effort to explore some of his basic problems. On the initial attempt, a scene was improvised in which the patient was regressed back to about five years of age, playing the role of a little boy who comes in late for dinner. His father is very tired and hungry, and angry at having been made to wait. He is a rather stern, compulsive individual who insists that everyone be seated at the table before dinner is served. It so happened that an outstanding actor was available who played the role of the father very effectively. In an essentially nonverbal exchange, the father figure grabbed the patient angrily and shook him vigorously. The patient relived intense anxiety on the stage. He began to tremble and then broke down and sobbed bitterly, whereupon the acting-out had to be interrupted. After the patient had calmed down sufficiently I asked him, "What's the trouble?" He seemed deeply preoccupied, thought for a moment and then said, "Now I know what this dark cloud is that's been hanging over me all these years. It's been that awful fear of my father. But—," he paused. "What?" I asked. "I don't understand one thing. Why should I be afraid of my father, Doctor, he's been dead for twenty years." It was necessary to make him aware that, although his father was dead, he was still very much alive in his psyche, and there he tormented and threatened him. Thus the tyrant from without had become the tyrant from within.

After this realization this patient's life pattern changed, and he seemed like an emancipated person. He took up shoe-repairing at the Goodwill Industries and later become instructor in shoe-repairing there. The work was both gratifying and constructive, since he was making a contribution to the poor by repairing shoes for them, and he felt increasingly worthwhile as a person. Because he was an excellent craftsman, he gained praise and recognition and this furthered his progress considerably. He was gradually able not only to carry out his own responsibilities, but to assume a leadership role and to help train other workers. For the first time, he was able to relate to the opposite sex in a gratifying manner and to consider the possibility of marriage. He was able to resolve his feelings of dependency on his mother and to take care of her instead of being taken care of.

In examining the earlier history of this case, one sees all the classic characteristics frequently encountered in the alcoholic patient—the history of the shy backward youth, insecure in his social and school relationships, whose stern, strict father and mother reared him in a very rigid, dogmatic, moral manner. He presented a picture of an emotionally emasculated person, unable to accept his true role as a man. He suffered greatly from inferiority feelings, showed little initiative and drive, and was fearful of authority. As a result of his therapeutic gains, he was able to become a mature, independent individual.

It should be noted that when the abstinent alcoholic patient has overcome his passivity to the extent that he can consciously assert himself in an aggressive and forthright masculine manner, the alcoholic crutch has become largely superfluous. It is important to keep in mind that the alcoholic patient, when withdrawn from alcohol, may suffer greatly from restlessness, tension, irritability, and insomnia. Hypnosis may be used effectively in certain cases to quiet the patient and induce drugless sleep. It is wise to discourage any dependency on sleeping drugs and sedatives as a substitute for the alcohol.

Group psychotherapy is of great importance in the follow-up treatment. In the group the alcoholic patient can resolve his disturbed emotional transference relationships toward rejecting or threatening parents, overcome his fear of disapproval and rejection by others, learn to communicate freely and effectively, and derive valuable insights from the many examples of similar human problems and conflicts which

come up during the group sessions. He derives ego strength from the group by observing others solving their problems, and finds encouragement and support. As a result of his increasing contributions to the group, he not only gains an enhanced self esteem, but greater acceptance from the group. In the group he discovers that he can freely abreact his emotional tensions without fear of reprisal, and attains new and constructive insights into his personality problems. For him, the group represents a cross-section of society. It is a testing ground for him to assert himself emotionally and intellectually, to express anger and rage, to protest, etc. He discovers, often to his surprise, that he can be an effective human being without depending on alcohol. In the group, he learns how to give as well as to take, to share as well as to remain jealously possessive, to console rather than to hurt, to understand rather than to condemn.

Quite often, the passive alcoholic is married to a very aggressive, dominant, independent woman. As long as he is married to an emasculating personality, it is very difficult for him to assert himself and realize his masculinity and his normal male role. It has been helpful in many instances to employ adjunctive therapeutic devices such as hypnotherapy of the wife, or to have both the patient and his wife come to group psychotherapy. Psychodramatic therapy has also been utilized very effectively in these cases. In certain instances, it is necessary to treat the parent or parents of an alcoholic in situations where he is still living at home and has a dependency relationship.

Constructive programs such as higher education and vocational training, all tending to increase the alcoholic patient's sense of independence, security, and self value can be of great help in many instances. For example, I had as a patient at one time a middle-aged salesman who was a compulsive drinker and suffered from depression to the extent that he had made suicidal attempts. After he achieved initial abstinence by means of hypnotic conditioning, he was given the opportunity to participate as an auxiliary therapist in psychodrama sessions with juvenile delinquents. Because he was able to make a real contribution to these young people, his feelings of his own value were enhanced. In addition, he gained insight into the effects of alcoholism on children. As a result of his therapeutic gains, he has been abstinent for two years and is now holding a good executive position.

Conclusion

In conclusion it should be emphasized that attaining the patient's abstinence is only the first essential step. Although abstinent, a still suffering, emotionally maladjusted, unhappy person may remain. His favorite remedy, alcohol, his means of relief and escape from suffering has been removed, but have we something better to offer him, something that will make his total existence happier and more gratifying? Have we resolved his basic problems, thereby restoring his sense of adequacy, creating new hopes and incentives, and helping him toward a better understanding of himself and others?

1323 New Hampshire Avenue, Northwest

"OFF THE RECORD . . . "

Share a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. PAGES 25a AND 29a

USES and ABUSES

OXYTOCIN in Obstetrics

Since the employment of oxytocin in the induction and stimulation of labor has recently become so widespread and the possibility of serious complications is apparent, it is appropriate to delineate the current status of the uses and abuses of this drug in modern obstetrics.

HARRY FIELDS, M.D.
JOHN W. GREENE, JR., M.D.
KEITH DeVOE, JR., M.D.
Philadelphia, Pennsylvania

Oxytocin, in the natural or synthetic form, is being used more frequently today than at any previous period in the history of obstetrics. The use of oxytocin before and during labor has been one of the most controversial subjects of recent years. Many reports in the current literature indicate that, when properly employed, oxytocin is successful in the induction and stimulation of labor. Its place is gradually being established, since the emphasis has been on the proper use, rather than the prohibition of the drug. However, potential hazards are ever present and complications with severe sequelae are attendant upon its improper use.

The paramount question that arises is does this drug produce a normal physiologic uterine response when properly used? This has been well demonstrated by the studies of Caldeyro-Barcia, who demonstrated that uterine contractibility produced by proper dosage of intravenous oxytocin is indistinguishable from that of normal labor. Oxytocin should be given in very dilute solutions and the uterine response controlled by regulating the rate of infusion.

Oxytocin is available at present in the form of Pitocin® (Parke, Davis), or Syntocinon® (Sandoz). Although it is used intramuscularly for many indications, the intravenous administration in labor has been overwhelmingly adopted. The recommended dosage is one unit of either Pitocin or Syntocinon in 100 cc. of 5% glucose in water. This may be varied to suit the need and the dose is determined by the indication for which oxytocin is used. Caledyro-Barcia (in a personal communication to Dr. Fields), has recently expressed the opinion that two units per 1000 cc. would be a much safer dilution and could be equally as effective as the larger dose when given intravenously at a higher rate. Although it would be better to speak of dosage in terms of weight, the only method of measurement at present is in units. However, the amount of oxytocin used must still be determined by means of careful, continuous titration in accordance with the uterine response.

The generally accepted uses of oxytocin in obstetrical conditions at present are:

- Induction of labor
  a. Elective
  b. Indicated
- Stimulation of labor
  a. Augmentation or acceleration of early labor
  b. Primary or secondary inertia

From the Department of Obstetrics and Gynecology, School of Medicine, University of Pennsylvania.

- To prevent postpartum bleeding

A. Third or fourth stage hemorrhage
   a. Prophylactic
   b. Therapeutic

B. Caesarean section after birth of infant

- Abortion
   a. Incomplete
   b. Therapeutic
- Promote lactation in nursing mothers
- Miscellaneous

A. To ripen the cervix in preparation for induction of labor in indicated termination of pregnancy.

B. Irritability test of uterus
   a. Before elective induction
   b. Before elective Caesarean section
   c. Diagnosis of abdominal pregnancy

A thorough knowledge of obstetrics is essential to understand the limitations and place of oxytocin in the management of the above conditions.

To understand the place oxytocin should assume one must be aware of the untoward effects of this potent drug. Possible maternal complications are:

1. Uterine rupture
2. Cervical lacerations
3. Increased postpartum hemorrhage
4. Amniotic fluid embolus
5. Hypofibrinogenemia
6. "Pituitrin" shock

The possible fetal effects are:

1. Brain injury as a result of anoxia or cerebral hemorrhage.
2. Death as a result of the above, or secondary to spasm or rupture of the uterus.
3. Fetal distress secondary to spasm of uterus.
4. Prematurity following induction before term.

These sequelae obviously apply only when oxytocin is used before or during labor. It is in these situations that great care and caution be exercised. The specific dangers are:

1. Unsuspected sensitivity of the uterus to the drug.
2. Improper dosage.
3. Too rapid administration of the drug.
4. Use of the drug in the presence of contraindications.

The necessary precautions to avoid complications are:

1. Standardization of the dilution of the drug, (usually 0.5 or one unit per 100 cc. of 5% glucose in water).
2. Continuous control and titration to uterine response.
3. Trained personnel in constant attendance to prevent or immediately diagnose complications.

Uses of Oxytocin (I. Induction of Labor)

A. ELECTIVE—In elective induction the patient should not fear or object to induction, the infant must be mature and the cervix must be ripe. There must be no contraindications to labor or vaginal delivery.

Although many inductions of labor have been performed by puncture of the amniotic sac, the most widely used technique today is "oxytocin drip" and amniotomy. The oxytocin shortens the latent period and assures effective contractions.

B. INDICATED—Indicated induction of labor is performed for obstetrical or medical complications which make termination of pregnancy mandatory. Frequently when termination is desirable, conditions for induction are not ideal, the cervix is not ripe and the infant may be small. When the cervix is long and uneffaced, several days of "ripening" may be necessary. This procedure consists of administering intravenous oxytocin (one unit per 100 cc. of 5% glucose in water) at fifteen to twenty-five drops per minute for eight to ten hours. This is done for several days, without any attempt at amniotomy, until the cervix becomes dilated and effaced enough to make it safe and simple. "Ripening" can only be used in patients in whom termination of pregnancy is not too urgent.

Indications for Induction of Labor

1. PREMATURE RUPTURE OF THE MEMBRANES—If the infant is mature, if the cervix is ripe, and if there is no contraindication to

vaginal delivery, induction may be attempted. When conditions for induction are not ideal and pregnancy should be terminated, ripening may be necessary several times before effectual labor or delivery is possible. Although these are classified as inductions of labor, some obstetricians choose to call these stimulations since the membranes are already ruptured.

2. TOXEMIA—When termination of pregnancy is indicated after the general condition of the patient has been stabilized medically, sufficient time must be available for the performance of induction of labor. When termination is urgent, Caesarean section is the method of choice.

3. HYPERTENSION—When continuation of pregnancy is dangerous for the mother or infant and the need for termination is not too urgent, induction is advisable. Ripening may be necessary, if the pregnancy is not at term.

4. RH SENSITIZATION—Generally the fetus should be mature and sensitization progressive and definite. However, in instances of previous fetal loss with severe sensitization, induction can be carried out in an attempt to obtain a viable infant before term. Facilities must be available for Coomb's test and exchange transfusion. If conditions of the cervix are not ideal for induction, ripening may be necessary. The indication in these instances is more for convenience, since delivery during the day makes the various tests and procedures necessary to get the best results more easily and promptly available.

Only on very rare occasions is there a real serologic indication for early termination with Rh sensitization, such as with a homologous father and a repeated history of progressively severe sensitizations.

5. CEPHALO-PELVIC DISPROPORTION—This is a controversial indication which is more popular abroad than in the United States. The only advantage of induction is to deliver the infant before it grows too large. However, absolute disproportion must be ruled out, and cephalic presentation with favorable conditions for induction are mandatory. It is performed only as a trial of labor, and with any delay in progress, the attempted induction should be discontinued.

6. ANTEPARTUM FETAL DEATH—When induction is considered with this condition, the length of time the fetus has been dead assumes considerable importance. If death has been longer than a week, induction is often difficult, because of the soft fetal head. Blood coagulability studies must be done and if defective should be corrected. With this indication, labor should be carefully controlled and never allowed to become tumultuous because of the danger of afibrinogenemia, or amniotic fluid embolus.

7. POSTMATURITY — This indication, although popular abroad, is controversial in this country. However, induction can be considered only if the cervix is ripe and an expeditious labor anticipated. Fetal distress is a contraindication to induction.

8. THIRD TRIMESTER BLEEDING—a. *Mild Abruptio Placenta*—Induction may be indicated in these conditions if bleeding is not too profuse, if the birth canal is favorable for vaginal delivery, if fetal distress is not present and if the general condition of the patient is good.

In the absence of these conditions or in moderate or severe abruption, Caesarean section is the best method of termination.

b. *Marginal Placenta Previa*—The infant should be mature, the cervix ripe, bleeding not too profuse, and there should be no signs of fetal distress. With excessive bleeding or fetal distress, Caesarean section is the treatment of choice.

9. SYSTEMIC DISEASE—a. *Diabetes*—The diabetes must be controlled before induction is attempted. The infant should not be small, there must be no signs of fetal distress and disproportion must be ruled out.

b. *Severe Renal Disease*—When late pregnancy must be terminated for the benefit of the mother or infant, excellent results are achieved by induction of labor with intravenous oxytocin.

c. *Cardiac*—Induction is performed with this indication to control labor and permit the

obstetrician to lessen the work of the second stage.

d. *Tuberculosis*—The indication is similar to that with cardiac patients.

e. Other medical conditions such as: paraplegia, epilepsy, ulcerative colitis and subarachnoid hemorrhage may be indications for induction if termination of pregnancy is necessary. These should be individualized.

Use of Oxytocin (II. Stimulation of Labor)

A. To augment desultory labor. Oxytocin can be used frequently in early ineffectual labor. Prevention of a long, tiring preliminary stage of labor may prevent subsequent uterine inertia. However, oxytocin must be used only if conditions are favorable for normal vaginal delivery, and if there are no contraindications to its usage. It should not be used in false labor when the cervix is unripe, or the infant is not mature. In these instances, other measures as sedation and reassurance should be instituted.

B. Treatment of inertia. One of the most important functions of oxytocin in obstetrics today is for correction of uterine dysfunction, particularly of the hypotonic type. It must be used with caution and only after the patient is rested and hydrated, and disproportion ruled out. The dose must be carefully titrated to uterine response with resulting normal, effective uterine contractions.

Use of Oxytocin (III. Postpartum Bleeding)

1. Third and Fourth Stage Atony.

a. *Prophylactic*—Whenever atony is anticipated following inertia uteri, abruptio placenta, placenta praevia, tumultous labor, or with overdistension of the uterus, or myoma uteri, intravenous oxytocin (one or more units per 100 cc. of 5% glucose in water) will prevent severe postpartal blood loss. The intravenous may be continued for several hours postpartum and prevent delayed bleeding. Intramuscular injections of oxytocin (ten units) may also be used upon indication to increase the contraction of the uterus.

b. *Therapeutic*—Whenever bleeding is excessive postpartum and is due to atony, and not to retained placental fragments or lacerations of the birth canal, intravenous oxytocin may be lifesaving. Afibrinogenemia must always be ruled out with this condition.

2. Caesarean Section—As soon as the infant is delivered, intravenous oxytocin will aid in the contraction of the uterus and prevent undue blood loss. When Cyclopropane is the anesthetic agent, synthetic oxytocin (Syntocinon®) is the oxytocic of choice, since it contains no pressor substance.

Use of Oxytocin (IV. Abortion)

1. Incomplete — Although intravenous oxytocin has been recommended as the complete treatment for this condition, it should be used primarily to prevent blood loss and to aid in the expulsion of as many of the products of conception as possible until instrumental evacuation can be accomplished.

2. Therapeutic—Successful induction of labor with intravenous oxytocin has been reported in late abortion. However, if success is not prompt and effective, hysterotomy is the safest procedure.

3. Hydatidiform mole—Oxytocin is frequently of great value in emptying the uterus in this condition. This should usually be followed by a D & C.

Use of Oxytocin (V. Promote Lactation in Nursing Mothers)

Oxytocin produces an increased flow of milk by means of the let-down reflex. This is of great assistance to nursing mothers. Oxytocin (Pitocin® or Syntocinon®) in doses of three to five units may be administered intramuscularly, or syntocinon may be given intranasally as a spray.

VI. Miscellaneous Uses of Oxytocin

1. To ripen cervix in preparation for indicated induction.

a. Oxytocin is administered for eight to ten hours intravenously in dilute solution (one unit per 100 cc. of 5% glucose in water) at fifteen to twenty-five drops per minute. The patient

is then allowed to rest and the procedure is repeated the next day. This may be continued until ripening is achieved if termination is not urgent.

2. To test irritability of uterus.

a. *Before Elective Induction*—Smythe has described an irritability test for the pregnant uterus which quantitatively measures the degree of sensitivity to oxytocin and predicts the onset of labor. The test consists of injecting minute doses of oxytocin intravenously to determine the minimal dose necessary to cause a uterine contraction. Response to the minimal dose of 0.04 units indicates labor will start within twenty-four hours. This may be useful before elective induction is attempted.

b. With elective Caesarean section, an important problem in selecting the opportune time for operation is the size of the infant. The test described above may be of assistance in determining this optimal time.

c. *Diagnosis of Abdominal Pregnancy*—An injection of one or two units of oxytocin intramuscularly will cause the uterine musculature to contract. If the infant is not in the uterus, the membrane surrounding the infant will not contract thus aiding in the diagnosis of abdominal pregnancy.

Contraindications

The contraindications to the use of oxytocin in labor are those conditions in which labor itself is contraindicated.

1. Dystocia due to mechanical factors.
2. Predisposition to uterine rupture.
   a. *Previous uterine scars with uncertain integrity*
      1. Caesarean section
      2. Hysterotomy
      3. Myomectomy
   b. *Grand multiparity with large fetus*
3. Uterine hypertonus
4. Central or partial placenta praevia
5. Severe or moderate abruptio placenta
6. Abnormal presentation
7. Maternal exhaustion or poor general condition
8. Fetal distress
9. When labor is progressing normally
10. When the physician can't be in attendance
11. Facilities for immediate transfusion or Caesarean section are not available
12. Lack of experience
13. Inadequate personnel for constant supervision during the administration of oxytocin

Abuses of Oxytocin

1. In elective induction, when the patient fears or objects to induction of labor, when the infant is premature, when the cervix is not ripe or the conditions in the pelvis are unsuitable for uncomplicated labor and delivery.

2. In indicated induction when termination of pregnancy is too urgent, or in the presence of fetal distress.

3. In the stimulation of labor when labor is normal, the patient is exhausted, and when disproportion or fetal distress is present.

4. In abortions when bleeding is uncontrolled due to retained secundines and D & C is unduly delayed.

5. In third stage hemorrhage due to lacerations, retained placental fragments or afibrinogenemia.

Summary

Oxytocin has become a valuable asset in obstetrics in recent years. It is of benefit as an aid in the induction of labor, assuring a more effective and usually shorter labor. For patients already in poor labor, it prevents unnecessary prolongation which is exhausting and frequently results in increased maternal and fetal morbidity and mortality.

Oxytocin administration reduces the incidence of difficult deliveries by decreasing the

number of persistent posterior occiputs, transverse arrests, and the need for difficult mid forceps. It also lessens the need for Caesarean section. The incidence of this operation has decreased since the use of oxytocin has become more frequent in certain complications of pregnancy and during labor.

Prevention of third and fourth stage hemorrhage as well as that associated with abruptio placenta and placenta praevia is also an important advantage of oxytocin.

In the treatment of incomplete abortions, and at Caesarean section after the birth of the infant, blood loss is curtailed by its use.

These are the advantages of the proper use of this drug. However, its use must always be under strict control and supervision and administered by experienced physicians with sound obstetrical judgement. Misuse is dangerous; the deleterious sequelae far outweighing the advantages. Poor judgement or lack of experience and the absence of adequate facilities and personnel are definite contraindications to the use of oxytocin in obstetrics today.

Bibliography

1. Atherton, H. F., Alexander, A. and Schreier, P. C.: Intravenous pitocin in late abortion and immature delivery. Obst. and Gynec., 10:5, 1957.

2. Bishop, E. H.: Dangers Attending Elective Induction of Labor, J.A.M.A. 166:1953, 1958.

3. Caldeyro-Barcia, R. et al: A Quantitative Study of the Action of Synthetic Oxytocin on the Pregnant Human Uterus. J. Pharm. Exper. Therp., 121:1957.

4. Caldeyro-Barcia, R. and Poseiro, J. J.: Fetal and Maternal Dangers due to Misuse of Oxytocin. Proceeding International Congress, Gynecology and Obstetrics, 2, 450, 1958.

5. Dillon, T. F., Bonsnes, R. W. and Douglas, R. G.: Relative Obstetric Efficacy of Oxytocin, Pitocin and Syntocinon. Obst. and Gynec., 12:581, 1958.

6. Douglas, R. G., Kramer, E. E. and Bonsnes, R. W.: Oxytocin, Newer Knowledge and Present Clinical Usage. Am. J. Obst. and Gynec., 73:1206-17, 1957.

Engstrom, L.: Induction of Labor Around Full Term, Especially by Means of Synthetic Oxytocin in Intravenous Drip. Acta Obst. and Gynec. Scand., 38, Suppl. 3, 1959.

8. Fields, H., Greene, J. W. and Franklin, R. R.: Intravenous Pitocin in Induction and Stimulation of Labor, A Study of 3754 Cases. Obst. and Gynec., 13:353, 1959.

9. Fields, H., Greene, J. W., Jr. and Payne, F. L.: Indicated Termination of Late Pregnancy. Obst. and Gyn., 17:30, 1961.

10. Newton, M. and Newton, N. R.: Postpartum Engorgement of the Breast. Am. J. Obst. and Gyn., 61:664, 1951.

11. Smyth, E. C. M.: Oxytocin Sensitivity Test, Lancet, 1:237, 1958.

Department of Obstetrics and Gynecology

STOP AT CORONER'S CORNER . . .

Read the stories doctors write of their unusual experiences as coroners and medical examiners. SEE PAGE 38a

A Blueprint for Psychosomatic Practice

SANFORD M. LEWIS, M.D., F.A.C.P.
Newark, New Jersey

An orientation toward the practice of medicine which routinely integrates factual knowledge about organic disease with what has been learned concerning emotional responses is known as psychosomatic medicine. References to this new approach, which actually is an attitude rather than a subspecialty, may be seen in almost every contemporary medical publication. Such studies, however, are often more inspirational than practical. They have succeeded only superficially in loosening the strangle-hold of "either-or" (organic versus neurotic) thinking which still characterizes the majority reaction of practicing physicians. Many centuries ago, a famous philosopher lamented the fact that "physicians separate the mind from the body." Were Plato living today, he would face the astounding realization that his complaint is still applicable.

It might be well here to consider the subject broadly, in practical as well as philosophic terms, and to examine possible approaches at various levels—the physician, the hospital and the medical community as a whole. A distinction must first be drawn, however, between modern, intelligent medical practice in general, and the specific area of psychosomatics. The former might be expected to recognize a relationship between organic lesions and emotional conflicts. Sympathy and objectivity might be expected of the practitioner and his attention to emotional as well as physical needs might be anticipated. One must emphasize, however, that this approach does not describe psychosomatic medicine.

A brief case history taken from the author's experience with psychosomatic problems in a cardiac clinic may be illustrative:

Mr. S. is a white male, fifty-nine years of age, who has been treated for severe angina during a period of five or six years in the Clinic. He was considered a candidate for surgical relief a few years previously, but he rejected the procedure. He suffered also with dizziness and from "blackouts" since an automobile accident ten years ago, for which he had been paid considerable compensation.

After a brief period of suspicious "fencing" with the examiner, Mr. S. unexpectedly, and with obvious relief, provided the surprising information that he has a D.D.S. degree. He described his origin in an "illustrious" family consisting of a well-known professional father, and older brothers who are also extremely successful. After dental service in the Army, he became involved in a long series of enterprises including the sale of medical equipment, operation of a truck route, etc. He could not satisfactorily explain his failure to pursue a dental career. The emphasis throughout the anamnesis, however, was on feelings of inferiority and an inability to do anything well. An attempt to relate this to early experiences with his parents elicited an overemphasized response, "they were wonderful people." The dependency pattern is illustrated by two marriages, in which direction of the family fortunes and the role of family head was abrogated to the wife in

Dr. Lewis is Physician-in-Chief, Psychosomatic Clinic, United Hospitals of Newark; Consultant in Psychosomatic Disease, New Jersey State Hospital at Marlboro.

both instances. Failure in marriage, business and other ventures was, apparently, almost inevitable for this man. He described, for example, his latest preoccupation with newspaper word games, wherein he always "just loses by one or two words which are perfectly obvious afterward."

Of specific interest was the fact that a rather severe episode of angina was precipitated during the interview, as the patient talked of an early business failure. An overall attitude of ingratiation and attempt to "do everything I can to cooperate with you" emphasized a very basic and almost incapacitating dependency need.

During a second session, the patient reported that "for the first time in ages" he had absolutely no angina or vertigo during an entire week. When it was suggested to him that this might be related to the fact that so much (parental) interest was focussed upon him during these talks, and when he realized that the experience must end, he began to suffer a recurrence of angina. This was quickly terminated, without nitroglycerin, when it was pointed out to him that the doctors (the clinic group as a whole) would always be there and would help him whenever necessary.

The acting out of this man's dependency needs through the transference situation is clearly portrayed. When these were satisfied temporarily by a protective father surrogate, he was relatively free of symptoms. When it was suggested that he must walk alone, the angina immediately returned. His is an inadequate personality structure in which apparently excellent intellectual capacities are virtually negated by a marked character neurosis in which feelings of inferiority and marked dependency predominate. These have interfered and will probably continue to interfere with any permanent constructive effort at rehabilitation. Symptomatically, he may respond to efforts at ego support and to an atmosphere of sympathetic respect. A tentative offer to use the appellation "Doctor" in addressing him, however, was politely rejected. This serves as another manifestation of the overwhelming inferiority feelings and reluctance to assume responsibility, even for himself.

It is apparent then, that if we are to successfully integrate emotional and somatic factors, we must acquire an ability to understand these psychodynamic as well as the physiologic alterations. An internist may be fully aware of the complex hemodynamic changes in coronary disease and the chemical bases for atherosclerosis. He may fail, however, to understand the defensive mechanisms represented by his patients' angina, or the aggressive impulses for which it serves as a self-destructive substitute. The physician, aware that angina may be influenced by emotion, although inexperienced in the means of identifying and coping with the pertinent psychodynamics, may certainly qualify as a fine cardiologist. He is not, on the other hand, no matter how patient and sympathetic, an effective practitioner of psychosomatic medicine.

The Physician

Medical men who have demonstrated the greatest propensity for training themselves in the application of psychiatric principles to the problems of clinical medicine, are usually, although certainly not invariably, internists. The training and discipline involved in an internist's preparation is likely to result in a "gestalt" which insists on a total approach to a total patient situation. His professional relationship with psychiatrists in reciprocal consultation is perhaps more frequent than among other specialties. There are, however, numerous physicians in other areas, particularly generalists, who have taken the necessary steps to prepare themselves for the rewarding practice of holistic medicine.

Attendance at medical meetings or participation in brief didactic courses is, unfortunately, insufficient in terms of providing the psychodynamic insights and therapeutic facility which effective psychosomatic practice requires. The former is most often attained through personal experience as a subject in psychotherapy or analysis. The latter can be acquired only by reasonably long-term work in a clinic center

devoted to psychosomatic research and treatment. Actual participation as a therapist, under the control and guidance of a qualified supervisor is a *sine qua non*. Another essential involves a rather thorough acquaintance with basic psychiatric literature and reasonable familiarity with current trends as reflected in periodicals and the several societies devoted to psychosomatic problems.

The Need

The dividends of psychiatric research and increased understanding of the mechanisms of psychosomatic processes have been accumulating at a rate quite comparable with advances in surgical and chemotherapeutic methods. Psychiatrists are in a position to apply much more "know-how" to a steadily growing proportion of the population with more consistent success. This proportion, however, is, for mid-century scientific America, appallingly small. Because of their intrinsic nature, conventional psychiatric approaches to diagnosis and particularly treatment, are expensive in terms of time as well as money. There is an obvious need, therefore, to supplement the efforts of specialists in neuropsychiatry by involving practitioners in related disciplines. There is the parallel necessity also, of finding ways to use accepted principles in shorter, less comprehensive fashion with aims which are more specific and limited. In some patients, the goal of total personality evaluation and reorientation is certainly desirable, both in terms of the individual analysee and the contribution of psychonalysis to the broad fund of psychiatric knowledge. But an analyst can treat only a comparative handful of individuals in his professional lifetime. The clinical psychiatrist, working with severe emotional disorders as well as psychotic patients, is overwhelmed, and the demand for his time far exceeds the available hours.

What then of the huge mass of people who are sick and in whom psychopathology plays an important, if not determinative role in the total disease process? Perhaps the emotional factors are not sufficiently severe to warrant specific psychiatric referral. Are they, therefore, unimportant? Is the family doctor, the internist, the surgeon, equipped to manage these problems? Perhaps only, as suggested above, if the doctor's preparation and experience in psychodynamics is on a par with the background routinely demanded in pathology, physiology and anatomy. Reassurance and support, both from medical and lay sources, will help many situations temporarily. Such first echelon psychotherapy, however, is all too often insufficient for a large number of sufferers with peptic ulcer, colitis, angina, hypertension, asthma and eczema. We have the means of providing more help and the medical community shares the burden of preparing itself to supply that means.

A representative case history involving one forty-five-minute interview may serve to illustrate what can be formulated diagnostically with minimum expenditure of time and generous use of well-established psychodynamic principles:

The patient is a forty-eight-year-old, divorced, white female, who has one daughter of eleven. She is pleasant, extremely intelligent, and attempts to cooperate in an excessive manner by recording every detail. She has been referred by the Gastrointestinal Clinic, where she had been studied because of symptoms of fatigue, epigastric pain, distention and gaseousness. A thorough workup revealed no significant organic disease process.

Her difficulty began about two years ago, when she separated from her husband. She describes her marital life as very stormy, the man having been irresponsible and a drunkard. He did not support her. At about the same time that the domestic crisis occurred, she indicates, "I was beginning to have my changes and this helped to get me into trouble." Perhaps the outstanding feature of this woman's difficulty is the discrepancy between her obvious intelligence and ability and her present status in life. She was a good student, was educated through high school, and speaks like one who has a considerably higher than average I.Q. Despite this, she is currently em-

ployed as a domestic. She does day work for three different employers. One of these is the main source of her immediate difficulty. She describes the woman as being "overbearing and unfair." The employer constantly criticizes the patient, disciplines her, follows her around and "watches my every move." She is reprimanded when she makes an error. The patient indicates that she has to conceal her resentment but, nevertheless, realizes that she hates and despises the woman.

It is quite apparent that she finds the position of maid intolerable and that her relationship with her employer is a constant source of difficulty. She sees herself as someone who is quite capable of doing very much more and a realistic appraisal suggests that she is right. At the present moment, she is busy polishing up her typing with the hope that she might be able to obtain a job, through her brother, as a typist. She should succeed at this venture and, if so, her symptoms will undoubtedly become less severe.

She describes her father as being rigid. She was not allowed to go out with boys until she was eighteen years of age. At this point, allegedly through the advice of a Child Guidance Bureau, she "ran away from home and stayed away for one and one-half years." She indicates that she stayed at an institution for business women and, peculiarly, did not even inform her mother and father that she was alive during this period of time. She speaks of this almost with pleasure and one cannot escape the inference that a good deal of sadistic delight was obtained by this flight and the projected anxiety which her parents must have suffered. She indicates, "when I came back my father didn't talk to me for a year. My mother was o.k. She told me that I had courage to do what I did and that she would never have had sufficient 'nerve' herself to run away from my father. All the other kids left home to escape from my father."

In discussing her early menopausal situation, she indicates that "I have these strange feeling of things crawling all over me but nothing ever broke out." Characteristically, she denies any interest in sex and indicates, "I don't even think about it now. I have no feelings at all."

The patient has been suffering with gastrointestinal symptoms primarily because of her inability to ventilate the deep resentment of being placed in a position of inferiority and because of her rigidly repressed sexuality and hostility. Given the kind of sadistic impulses which could account for the behaviour described in running away from home, and postulating the necessity for repressing this kind of aggression under her present life circumstances, one can readily appreciate the intensity of the emotions which are being internalized. The symbolic role of the employer as a representation of the earlier parental figures is obvious and accounts for the magnitude and direction of the patient's responses.

In discussing further management of this problem, the question of referral to a mental hygiene clinic was raised. This did not appear to be the best course at the present time. The patient seemed to require the feeling that she is "in charge" rather than "being taken care of." This is why she is in such trouble vis-a-vis her employer and why she was in such trouble vis-a-vis her parents. She would, therefore, be best served by receiving encouragement in her plan to "make something of myself."

She will be happy only as the doer, hoping to succeed in her ambition to obtain a typing position, which she sees as very much higher in status than her present situation. In her management in the clinic, she will respond best to the feeling that whatever is being done is merely an adjunct to her own efforts. She has to feel that she is mainly responsible for her destiny and that others are not directing or dominating her.

The physician trained in psychosomatic disease may be adding another dimension to traditional therapeutic techniques. Benefits to patients represent sufficient justification for these efforts, but other dividends also accrue. Outstanding among these has been the open line of communication which fortunately exists be-

tween the psychosomatist and his hospital colleagues. The psychiatrist is often only minimally involved in the hospital family. The internist, generalist, or pediatrician interested in psychosomatic problems however, is usually an active participant in the affairs of his medical center. His contributions, then, become a matter of intimate experience on the part of his co-workers, and even more to the point, the intern and resident staff. Through this means, a great deal of misinformation about psychiatric principles can be corrected, and the area of psychiatry itself, through wider understanding, will be more universally appreciated.

A fortuitous outgrowth of this viewpoint began with the establishment of psychosomatic services in large teaching hospitals. Progressive institutions in New York, Philadelphia, Cincinnati and elsewhere, have served as prototypes for such a program. An interest in psychosomatic medicine is now steadily developing in community hospitals throughout the nation. Case No. 2, for instance, was seen in the Psychosomatic Clinic of the Presbyterian Hospital Division of the United Hospitals of Newark. Here, administration and staff have evidenced increasing interest in the integration of the psychiatrically-trained physician with organically oriented medical and surgical approaches. A more comprehensive therapeutic unit is thus created with inevitable upgrading of the level of total medical practice.

The Patient

The patient who has ulcer, colitis, hypertension, the sufferer from migraine or asthma, who fails to respond satisfactorily to diet, drugs and reassurance may, after adequate psychodiagnosis become a candidate for psychotherapy. Of tremendous importance is the very early recognition of the ambulatory psychotic whose psychosomatic symptoms mask or replace a potentially disintegrative mental illness. Here, well-meaning but uninformed interpretive therapy may prove disastrous. In those with less serious neurotic processes, the management of incapacitating anxiety and working through of situational problems are indicated. Often insights into motivation and reaction patterns can be accomplished and a level of relief obtained, without unduly prolonging the investigation. Limited aims and limited duration of therapy will result in more patients being treated, and the psychosomatist will have sufficient time to maintain the essential balance in his practice between hours devoted to conventional medical duties and those specifically reserved for psychotherapeutic sessions.

The more deeply placed mechanisms involved with the Oedipal conflict, archaic libidinal needs and the full working through of the transference situation rarely is indicated in such an approach. Interpretation is limited. The primary requisite for a psychosomatic practitioner, as in every other field, is that he be cognizant of his personal limitations and those of his method. As in surgery, there is room for technicians at various levels of skill and experience. Assuming the acquisition of a basic knowledge of psychodynamic principles, therapeutic efforts at several levels can be constructive for the patient and deeply rewarding for the practitioner.

Conclusion

At this fairly early point in our level of understanding about human thought and behaviour, we can begin to envision a medical era in which the terms "Psychosomatic Medicine" will no longer be needed. As more of our students become trained in psychiatric as well as organic principles, and as the value of such orientation becomes evident to increasing numbers of practicing physicians in all fields, the necessity for a special subdivision will become progressively less compelling. The term "Psychosomatic Medicine" will have dropped the first word without any loss of meaning. For the present, however, and in the near future, a special attitude toward disease concerned with both psychologic and physiologic parameters will continue to make an extremely vital contribution to the science and art of medicine.

88 Chancellor Avenue

LOUIS B. NEWMAN, M.E., M.D.
ROBERT S. WILSON, M.D.
JOSEPH S. STRATIGOS, M.D.
JAMES A. RAIKES, M.D.
Chicago, Illinois

The Physician's Responsibility in the Total Rehabilitation of the Sick

The physician has a sacred and vital role in providing and directing adequate medical care programs including rehabilitation for those in need. With the increase in life span, and population, as well as the increase in the number of accidents, there will be a paralleling need for a greater amount and more intensive total care. Merely to prolong life may only be a partial achievement, for the sick must be returned to a life of at least partial usefulness with a maximum measure of happiness and dignity. Life must be prolonged and fruitful and should not be a period of "postponing death." Independent living, the ability to perform the maximum possible number of self-care and daily living activities including ambulation with minimal or no assistance, is a realistic goal for many disabled people through early intensive total rehabilitation.

We must squarely face the problems associated with the lives of the aging population and take vigorous steps to alleviate or solve, and if possible prevent these problems.

In the United States, out of a population of about one hundred eighty million, there are approximately sixteen million persons over sixty-five years of age and this number is increasing by more than one thousand every day. It has been estimated that by the year two thousand, about thirty million persons in this country will be over sixty-five years of age. As one gets older, the need for medical care becomes greater and more frequent. Every day about sixty-five thousand people are hospitalized; one hundred fifty thousand are disabled each day of which one hundred and twenty-five thousand are due to illness and twenty-five thousand to accidents. The human life span has been lengthened from forty-nine years to

Dr. Newman is Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Research Hospital, Chicago; Professor of Physical Medicine and Rehabilitation, Northwestern University Medical School, Chicago; Past-President, American Academy of Physical Medicine and Rehabilitation; and Past-Chairman, Section on Physical Medicine, American Medical Association.

Dr. Wilson was Acting Assistant Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Research Hospital and since February 1961 is Chief, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Tuskegee, Alabama.

Dr. Stratigos and Dr. Raikes are Residents in Physical Medicine and Rehabilitation Service, Veterans Administration Research Hospital.

about seventy years during the first half of this century and should increase with the growing knowledge concerning human care and behavior.

The mere thought of growing old produces untoward psychological reactions in many people. Aging is inevitable, however the rate and amount may be altered. We must start in our youth to prepare for old age. Perhaps we should find more appropriate words than aging, old, and aged, in an attempt to eliminate or decrease the psychological impact that these words have on some individuals. So frequently one is apt to associate these terms with a picture of misery, loneliness, disability and helplessness. Would terms such as "progressive maturity" or "advancing maturity" be more suitable?

With the many degenerative diseases associated with aging, plus the many other illnesses and injuries that are prone to develop, all of us are brought face to face with a tremendous problem. However, these problems can be solved by the working together of the many services (Medical, including Physical Medicine and Rehabilitation, Administrative, Nursing, Dietetics, Social Work, Vocational Rehabilitation, Recreation, and others) in the hospital and other institutions, as well as with the many national, state and local agencies and organizations. Exchanging ideas and experiences, both personal and organizational, is important.

In the future, preventive medicine will ward off, or delay, the many disabling conditions that now afflict man. Particularly for the aging and aged, frequent medical examinations are vital to perhaps avoid serious illness, both physical and mental. The results of basic and clinical research in the vast field of medical care will make life much fuller and deeper. The aging process will be at a slower tempo. Even though many individuals in the older age group may not be able to work again, many can be brought to a point of independent living with a minimal, or perhaps no assistance in the performance of their activities of daily living such as the ability to eat, dress, care of toilet needs, communicate, ambulate, perform household duties and many other activities. This ability to perform is the basic concept upon which to build a life of usefulness. However, some of these activities are beyond the abilities of some disabled persons. Some may need part-time homemaker or visiting nurse service, while others can be helped by a member of their family, a neighbor or other friend. Health care must be available for the sick to prevent serious mental and physical problems leading to the individual's rapid "breakdown."

There are over ten million persons in the United States who suffer from various forms of rheumatic diseases, over two million persons who have had "strokes" with or without aphasia, millions with some type of heart disease, approximately two million with Parkinsonism, millions with mental disorders, and many thousands with other neurological diseases, such as multiple sclerosis, epilepsy, muscular atrophies, many with various metabolic and glandular diseases, etc. There are nearly one-half million persons in the United States who are either totally blind or have serious visual impairment. Many have hearing defects of varying degree.

There is an alarming increase in the number of persons who are institutionalized due to mental illness. More effective preventive measures and definitive therapy will halt this increase. Accidents in the home, in industry, and through various means of transporation, add greatly to the disabilities of the aged. More than five million people each year are injured in highway accidents with a cost to the country of an estimated five billion dollars. Especially when dealing with the disabled and older persons, many accidents can be prevented in hospitals, institutions, nursing homes and in their own homes, by being taught proper rehabilitation technics in performing their daily living and self-care activities. Suitable homes that the elderly can afford are scarce. We must not isolate the older person. Approximately seventy-five percent of the so-called "old people" have annual incomes of less than one thousand dollars. Private pension plans and Social Security as of today cannot keep this

group of individuals from want and independence.

The medical profession must always be sensitive to the total needs of the sick and have a realistic awareness of how these needs can be met. Precise planning is essential, with prompt follow-through checkups.

In the planning and management for total care of the aging and the aged, one must include not only the medical factors, but also housing, employment, socialization and recreation. Retirement plans for all persons should be developed long before the actual retirement time; otherwise, severe social, economic and psychological problems can ensue. All people require to a greater or lesser degree, medical, social, spiritual, recreational, and work opportunities, and in addition, a frequently neglected aspect, that is, recognition by their family and friends which includes love, attention, respect and honor.

Physical Medicine and Rehabilitation

Physical Medicine and Rehabilitation is part of the total management of the sick and includes the diagnosis of, prescribing for and treatment of disease, defect or injury by the use of physical means and restoration to the fullest physical, mental, social, vocational and economic usefulness possible. The beneficial effects of various forms of heat, ultrasound radiation, electrical muscle stimulation, therapeutic exercise, cervical and lumbar-pelvic traction and many other therapeutic and diagnostic procedures, all contribute toward the ultimate goals of total rehabilitation for the disabled.

The early institution of intensive Physical Medicine and Rehabilitation is vital, not only in the prevention or lessening of residual disabilities, but to aid the person in performing the maximum number of self-care activities. The type, rate, amount, and when to institute rehabilitation activities, is governed by the overall medical picture and must be under the direction and supervision of a physician and whenever possible a physiatrist (physician specialist in Physical Medicine and Rehabilitation). A physiatrist on a part-time basis could fill the needs for smaller hospitals and centers. Properly planned and instituted, total rehabilitation leads to a greater measure of useful living with lessened readmissions into general, psychiatric and tuberculosis hospitals, thereby making beds available for others. Post-institutional follow-up by the physician, public health nurse, social worker, and others, is important to maintain previously accomplished rehabilitation benefits.

Physical Medicine and Rehabilitation can be considered as consisting of three phases or stages, not entirely distinct from each other but overlapping to a degree and having continuity. These phases are (1) preventive, (2) definitive, and (3) maintenance.

1. PREVENTIVE REHABILITATION. As long as there is no medical contraindication, preventive rehabilitation can be started though the patient may be unconscious, by instituting proper positioning in bed, the use of splints, and passive movements of the extremities through full range of joint motion in order to prevent contractures and deformities and at the same time aid circulation of the part.
2. DEFINITIVE REHABILITATION. Specific medically prescribed rehabilitation procedures are instituted to enhance function so the patient can perform the maximum possible number of self-care activities. It is not necessary to wait until the patient can be taken out of bed, for treatment can be accomplished at the bedside and later continued in the clinic or at home.
3. MAINTENANCE REHABILITATION. When maximum rehabilitation has been attained, maintenance therapeutic procedures should be continued so that the patient can at least maintain his accomplishments and not regress. For example, if the patient is able to feed himself and ambulate, then these activities should be continued. Frequently, in certain progressive diseases, maintaining the ability to perform activities by the patient is impossible. Maintenance rehabilitation procedures must be continued after the person is

CLINICAL RECORD	SELF-CARE ACTIVITIES—FUNCTIONAL EVALUATION

TYPE OF DISABILITY

PRECAUTIONS

HANDEDNESS ☐ LEFT ☐ RIGHT	ORTHOPEDIC APPLIANCE(S)	OCCUPATION (*Prehospitalization*)	AGE

INITIAL TEST		SCORING KEY
THERAPIST INITIALS	THERAPIST INITIALS	(*Scores indicate skill accomplished within a reasonable time*) 0—Cannot be accomplished. 1—Can be accomplished with human aid. 2—Can be accomplished with adaptation of environment (low bed, special toilet seat, hand rails, ramps, etc.). 3—Can be accomplished with use of mechanical aids (splints, braces, prostheses, crutches, wheelchair, etc.). 4—Can be accomplished without aids, adaptation or assistance.
DATE INITIAL TEST COMPLETED		

ACTIVITIES	SCORE (*RED X—indicates initial test; DATE—indicates change in condition*)				
PART I—EATING	0	1	2	3	4
1. EAT WITH FINGERS					
2. DRINK FROM CUP					
3. DRINK FROM GLASS					
4. EAT WITH SPOON					
5. CUT WITH KNIFE					
6. CUT WITH FORK					
7. EAT WITH FORK					
8. MAINTAIN SUITABLE POSTURE					
9.					
10.					
11.					
PART II—COMMUNICATION					
12. WRITE					
13. TYPE					
14. USE TELEPHONE					
15. OPEN ENVELOPE					
16. REMOVE LETTER FROM ENVELOPE					
17. PLACE LETTER IN ENVELOPE AND SEAL					
18.					
19.					
20.					
PART III—HYGIENE					
21. TURN ON FAUCET					
22. TURN OFF FAUCET					
23. SHAVE					
24. MAKE UP					
25. WASH HANDS					
26. WASH FACE					
27. BRUSH OR COMB HAIR					
28. SHAMPOO HAIR					
29. BRUSH TEETH					

SIGNATURE OF CHIEF, PHYSICAL MEDICINE AND REHABILITATION		DATE
PATIENT'S LAST NAME—FIRST NAME—MIDDLE NAME	REGISTER NO.	WARD NO.
NAME OF HOSPITAL OR OTHER MEDICAL FACILITY	SELF-CARE ACTIVITIES—FUNCTIONAL EVALUATION	

VA FORM JUN 1953 **10–2617** SUPERSEDES VA FORM 10-2555, APR 1948, WHICH WILL NOT BE USED.

VA-DC-17 408 3

FIGURE 1 Self-Care Activities—Functional Evaluation form. Only the first page of this form is shown. The patient's ability to perform activities are scored on the initial examination and repeated at intervals. These data are important in assessing the patient's performance abilities while under management.

transferred from the hospital to his home, other institution or nursing home; otherwise, a partially disabled person may deteriorate to a state of total dependency.

Self-Care Activities

To aid the patient in performing the maximum possible number of self-care activities is a basic rehabilitation objective upon which to build purposeful living. The Veterans Administration has developed a Self-Care Activities—Functional Evaluation form, VA 10-2617, listing 154 activities with which one can realistically evaluate a patient's performance, and at periodic intervals reevaluations can be made to assess changes (Only the first page of this form is shown in Figure I). The activities on this form are divided into 7 groups, those associated with Eating, Communication, Hygiene, Dressing, Locomotion, Household, and Miscellaneous. It should be noted that the Scoring Key on the form is divided into 0, 1, 2, 3, and 4 groups ranging from 0-Cannot be accomplished, to 4-Can be accomplished without aids, adaptation or assistance.

A complete evaluation is made of the patient prior to the institution of any therapy. In addition to self-care evaluation, range of joint motion is measured and recorded with the goniometer. Muscle strength, including grasp, is accurately determined with the myometer, which is a small self-contained hydraulic instrument.

Therapeutic Exercises

Therapeutic exercises properly prescribed and instituted are extremely important in attempting to regain and maintain maximum bodily function. It has been well established that many ill effects are produced from prolonged and ofttimes unnecessary bed rest. There must be a medically determined balance between activity and rest.

There are primarily four types of therapeutic exercises: 1. passive exercises; 2. active exercises; 3. active assistive exercises; and 4. active resistive exercises.

1. PASSIVE EXERCISES are done entirely by the physician, therapist, or through the application of external forces such as weights. Its main therapeutic value is for the maintenance of range of joint motion by preventing adhesions, contractures and joint fixation.
2. ACTIVE EXERCISES are accomplished by the patient's voluntary muscular contraction without any external aid, and is often referred to as "free exercises." It definitely increases blood flow and muscle strength.

   Isometric muscle contraction, sometimes designated as "muscle setting," or "static exercise," is accomplished without any change in muscle length, and is employed when the joint cannot be moved due to the part being in a cast, splint or brace. Vigorous isometric contractions will help to prevent or delay atrophy and maintain circulation. Movement in an involved extremity can be frequently enhanced by the simultaneous active resistive exercises of the opposite extremity.
3. ACTIVE ASSISTIVE EXERCISES are accomplished by the patient's voluntary movement aided by external assistance, such as by the physician, therapist, or through the use of pulleys and weights. It is frequently employed when the patient's strength is insufficient to satisfactorily move the part.
4. ACTIVE RESISTIVE EXERCISES are used to further aid in the development of muscle strength with its resultant beneficial effects, by resistance being given to the movement. To produce maximum strength of the muscle "progressive resistive exercise" is initiated. Muscles contracting repeatedly with relatively few repetitions against heavy resistance will increase in strength in contrast to a muscle contracting against a light resistance for numerous repetitions which will increase its endurance with very little change in strength. It is usually desirable to first improve strength, and later endurance. Load assistive exercises are frequently indicated.

Neuromuscular reeducation to develop purposeful pattern movements is usually indicated in neuromuscular disorders. Reflex actions, electrical muscle stimulation, muscle tapping or percussion, and other means for producing proprioceptive stimuli may be of help to facilitate movement of involved extremities.

Assistive and Self-Help Devices

There are many devices available, or that can be easily fabricated, to aid the disabled person perform self-care activities without which the performance would be impossible and would require the assistance of another person. The devices can be of plastic, wood, or leather in the form of "built-up" handles for eating utensils or means for holding various items in the hand such as a pencil, razor, toothbrush, spoon, etc. Assistive devices in the form of simple splints can be extremely helpful in preventing or correcting contractures and at the same time be of a dynamic type to permit functional movement of a part such as the fingers and wrist in a radial nerve paralysis. All devices should be simple, light, easily removable and readily cleaned.

Braces, splints, canes, crutches, wheel chairs, artificial arms and legs, hearing and other devices when indicated must be properly prescribed and the patient given sufficient training in their use. Gait training, starting in parallel bars, is of utmost importance in any type of disability when ambulation with safety is a realistic goal. The exact type of wheel chair must be prescribed by the physician.

Such items as brakes, folding type foot-rests, removable arm supports, zipper back, large driving wheels posterior, rubber cushion seat, "one arm" drive, electric drive, and other features should be specified to fit the needs of the patient.

The addition of handrails along corridors, grab-bars on bathtubs, near toilets, and in other places about the hospital, home or other place of residence; and the avoidance of scatter rugs, slippery floors, and other unnecessary obstacles, will aid the person in performing self-care activities and, at the same time, lessen the incidence of accidents with their resulting disabilities.

The following three patients, all having severe disabilities, demonstrate in an exemplary way the tremendous value of intensive physical medicine and rehabilitation in aiding the patients in overcoming their psychological and emotional problems while helping them perform the maximum possible number of self-care activities. The goal being independent living and with two of the three patients, gainful employment was a reality. For brevity, the exact details of treatment are not included in these case reports.

● CASE 1. This 67-year-old carpenter was admitted to the Veterans Administration Research Hospital approximately one year after he suffered a complete left spastic hemiplegia. He was apprehensive and depressed as he was unable to walk, did not perform any self-care activities, and had required almost complete nursing care while at home. On admission, there was no voluntary function of the left upper extremity which had developed contractures producing adduction, internal rotation and flexion of the shoulder, with flexion of the elbow, wrist, and fingers, and a painful shoulder. The left lower extremity had contractures resulting in flexion and external rotation of the hip, flexion of the knee, with plantar flexion and inversion of the foot.

Intensive physical medicine and rehabilitation was instituted consisting of hydrotherapy, therapeutic exercises to all extremities, and neuromuscular reeducation of the involved extremities. The objectives were to aid this man in overcoming the emotional overlay, improve function, and to perform the maximum possible number of self-care activities, including ambulation. Heat and passive stretching were done to overcome the contractures of the left arm and leg even though no functional return was realized in the left upper extremity. A foot-drop brace held the left ankle in a right angle position and a well-padded T-strap corrected the inversion of the foot. Ambulation was started in the parallel bars, and the patient progressed to good safe

ambulation using the foot-drop brace and the cane. He was instructed in performing self-care activities such as eating, combing hair, brushing teeth, bathing and toilet care, dressing, and many others with the use of his right upper extremity. Proper positioning in bed was essential. Nurses were trained in rehabilitation procedures so that positioning was properly done and all activities that were accomplished by the patient through the Physical Medicine and Rehabilitation procedures were continued on the ward. Figure 2 shows this patient using a bathtub guard-rail as an effective aid in getting into and out of the tub. A seat or stool, approximately six inches above the bottom of the tub, also makes for ease in getting out of the tub. Both of these devices lessen the incidence of accidents so frequently seen during bathing, and are helpful for any disabled person or one who is debilitated from illness or aging.

FIGURE 2 A bathtub guard-rail and a seat in the tub are of extreme value to this disabled person, having a complete left spastic hemiplegia, to get into and out of the tub with safety, assurance, and with no assistance. The guard-rail simply clamps onto the tub. Note the seat across the tub which holds the patient approximately six inches from the bottom.

After discharge from the hospital, this patient returned to his home to enjoy a good measure of independent living with minimal assistance from his wife.

● CASE 2. This forty-year-old farmer was admitted to the Veterans Administration Research Hospital for total rehabilitation after being accidentally caught in the revolving shaft connecting his tractor and feed mill. This accident resulted in a complete avulsion of the right upper extremity leaving an extremely short stump at the shoulder; multiple fractures (left humerus, right clavicle, right scapula, left femur, right transverse processes of the L-2 and L-3 vertebrae, and slight compression fractures of T-12 vertebra); severe left brachial plexus injury with complete flaccid paralysis of the left upper extremity; and left sciatic nerve injury.

The patient was initially admitted to a private hospital where an open reduction of the left humerus and left femur were performed using intramedullary rods for fixation. On his admission to this hospital five weeks after his injury, he was completely helpless, emaciated, extremely apprehensive, and unable to perform any self-care activities as his right upper extremity was absent, his left upper extremity was paralyzed, and his left lower extremity revealed a paralysis of the internal rotators of the hip, complete loss of active motion at the foot and ankle, and weakness of the left quadriceps and hamstrings. There was impairment of sensation in the left upper extremity, and a complete loss of sensation in the left lower extremity in the distribution of L-5 and S-1 spinal nerve roots. Electromyography and nerve conduction velocity studies revealed findings suggesting eventual recovery of function of the left upper extremity.

He was placed on intensive physical medicine and rehabilitation consisting of hydrotherapy, active, active assistive and passive exercises of the stump and the remaining extremities, electrical stimulation of the paralyzed muscles, and neuromuscular reeducation. A

foot-drop brace was used to hold the left foot and ankle in a right angle position. It was extremely important to aid him in overcoming the tremendous psychological and emotional overlay that existed due to his severe disability.

Figure 3 shows this patient learning to ambulate in parallel bars. He now has a right upper extremity prosthesis which he has become very adept in operating, and a simple splint to hold the left wrist in a neutral and better functioning position. Eventually, his left upper extremity, which was originally entirely flaccid, regained almost complete function. There still remained marked weakness in internal rotation of the left hip. Intensive therapy was continued so that he eventually was discharged from the hospital, ambulating independently without even a cane, and able to perform practically all self-care activities. This patient returned to his farm with very little handicap insofar as his work was concerned.

FIGURE 3 This patient is learning to ambulate in the parallel-bars. Note the right upper extremity prosthesis, the splint to hold the left wrist in a functioning position, and a foot-drop brace to hold the left foot and ankle in a right angle position. He eventually learned to ambulate independently out of the parallel bars and perform practically all self-care activities.

● CASE 3. This 39-year-old hospital administrator was admitted to the Veterans Administration Research Hospital for Physical Medicine and Rehabilitation three years after he sustained a traumatic transverse myelitis at C-4 level in a diving accident, which resulted in quadriplegia with bowel and bladder paralysis. There was no return of bowel function which necessitated manual rectal evacuation three times weekly. His bladder required the use of an indwelling urethral catheter.

Examination on admission to this hospital revealed a poorly nourished male sitting in a wheel chair, unable to stand or ambulate because of almost complete quadriplegia. There was moderate atrophy of all of the muscles of the extremities. Some slight active flexion and extension of the left elbow, left wrist and fingers were present as well as a little active movement in the fingers of the right hand. There was minimal active flexion and extension of the knees. For functional purposes, the patient was essentially a quadriplegia unable to perform any self-care activities. A sensory level was present extending from the toes to the shoulders. This patient was placed on an intensive Physical Medicine and Rehabilitation program with the objectives of aiding him in overcoming the tremendous psychological and emotional overlay, due to his disability and his hospitalization, to improve function, and to train him to perform the maximum possible number of self-care activities. He received heat, various therapeutic exercises, neuromuscular reeducation, splints, and various assistive devices.

Being unable to ambulate, and incapable of propelling a wheel chair due to the limited movement in his hands, he was furnished with an electric wheel chair (storage-battery operated) that he operated very easily giving him a great measure of mobility and independence. He was fitted with a number of assistive devices for his hands which enabled him to use eating utensils, electric razor, comb, hairbrush, toothbrush, typewriter, dictaphone, and other

FIGURE 4 A long-handled comb is used by the patient to comb his hair as he is unable to raise either hand up to his head. On the table can be seen other assistive devices for using an electric razor, tooth brush, hair brush, and other items.

equipment. Figure 4 shows him combing his hair with a long-handled comb as he is unable to reach up to his head. On the table one sees other assistive devices used to hold the electric razor, toothbrush, and others. Even though he was a quadriplegia with a severe disability, he was able to perform many self-care activities with these assistive devices after receiving intensive rehabilitation. After many months of therapy, he was discharged from the hospital, and returned to his former profession in hospital administration.

● CASE 4. This 71-year-old white male, a retired salesman, was admitted to the Veterans Administration Research Hospital for an infected ulcer on the large toe of his left foot of several weeks duration. He has arteriosclerosis obliterans, diabetes mellitus for the past 15 years and is markedly obese. The infection of the ulcer progressed, resulting in a cellulitis of the foot with gangrene of the entire large toe. Approximately 7 months after the onset of the ulcer, a left below knee amputation was performed. His diabetes is controlled with 10 units of NPH insulin once daily, and he is gradually losing weight on a 1400 calorie diabetic diet.

There is absent dorsalis pedis and posterior tibial arterial pulsations in the right lower extremity, however the femoral and popliteal arterial pulsations are present. There is normal range of motion of the remaining extremities and stump, however a moderate weakness, much of which was due to deconditioning from inactivity, was present.

He was placed on intensive Physical Medicine and Rehabilitation activities consisting of active therapeutic exercises with gradual progressive resistance to increase strength and function of all of the extremities and the stump, and also to improve his general muscle tone. Hydrotherapy to the stump aided in improving circulation and healing of the stump and was discontinued as soon as healing was complete. Inasmuch as the usual contractures seen in below-knee amputations are flexion of the hip and knee, the institution of proper therapeutic exercises and positioning of the stump will prevent these complications. Correct wrapping of the stump twice daily aids in its shaping. Early careful ambulation in the parallel bars was started with progression to ambulation with long crutches using a swing-through gait.

The stump healed approximately 5 weeks after surgery and he was then fitted with an

ischial weight-bearing pylon. The socket is molded to fit the patient's upper thigh and is made of a plastic material. As this patient had arteriosclerosis obliterans, it was advisable that no weight-bearing be placed on any portion of the stump and therefore with this pylon practically all of his weight is carried on the ischial tuberosity. In this manner trauma to the stump is minimal. The patient's stump merely activates movement of the lower end of the pylon through a soft leather cuff that conforms to the contour of the anterior and posterior surfaces of the stump.

Ambulation with the pylon was started in the parallel-bars and after sufficient training he progressed to ambulation outside of the parallel-bars, using a cane as seen in Figure 5. Many unilateral below-knee amputees can be trained to ambulate safely without a cane. The wooden "duck-foot" on the pylon seen in the photograph, is a recent improvement over the rigid foot that we have used for a good many years. It will be noted that the heel of the "duck-foot" is made of rubber to give resiliency on "heel strike." A "V" section is cut from the "duck-foot" to permit flexing of the toe portion and facilitate "toe-off." The under surface of the foot is covered with a ½ inch thick rubber sole for resiliency, to prevent slipping, and also serves as the hinge for the toe portion. A foot member can be attached to the lower end of the pylon, as for example, a SACH (solid ankle cushion heel) foot to improve the cosmetic effect by permitting the patient to wear shoes.

The advantages of the pylon are many, such as lower cost than a permanent prosthesis for early ambulation training. It serves as a valuable guide in assessing the effect of ambulation on the cardiovascular and pulmonary systems and the patient's over-all medical status. The effect on the remaining leg, whose function is frequently impaired, can also be evaluated.

The tremendous psychological boost of early ambulation with the pylon, its beneficial effect in improving the function of and the shaping of the stump and the patient's general physical condition, cannot be overstressed. At a future

FIGURE 5 Left unilateral below-knee amputee ambulating with an ischial weight-bearing pylon and a cane. The wooden "duck-foot" on the pylon has a resilient heel and a flexible toe portion to facilitate "heel-strike" and "toe-off" while ambulating. There is a free moving hinge at the knee. The leg portion of the pylon is activated by the patient's knee through a soft leather cuff. Inset shows close-up of "duck-foot" during "toe-off."

date, when it is medically advisable, the amputee can be fitted with a permanent prosthesis. Pylons can be successfully used in other conditions such as, above-knee amputations, hip disarticulations and hemipelvectomies, during the period between the amputation and the securing of a permanent prosthesis.

Diagnostic Procedures

Many diagnostic and evaluation procedures are available through the Physical Medicine and Rehabilitation Service that are extremely helpful not only in diagnosis, but frequently as an aid in prognosis. In addition to range of joint motion, muscle strength, and self-care evaluation, the following tests are accomplished when indicated: 1. Electrodiagnostic examinations

including electromyography and nerve conduction velocity tests; 2. Electrical skin resistance measurements; 3. Sweating pattern tests; 4. Oscillometric tests; 5. Temperature (skin, intramuscular) tests; 6. Walking cadence tests; and others.

Physical Medicine and Rehabilitation Service should be established in all hospitals so that the needs of the sick can be fulfilled. There is a dire need for greater hospital and other institutional facilities, as well as for trained personnel in all branches related to the care of the sick. School facilities and the education of prospective students regarding the opportunities in the field of rehabilitation must be enhanced.

The patient, as well as his family, should participate in discharge planning whenever feasible. This must be done early and is especially true when the patient is to be discharged to his own home, for proper orientation of the family will make for greater acceptance of the patient and his problems and lead toward fulfillment of his specific needs.

Many of our older group who are employable, are retired according to chronological age, with complete disregard of their continued ability to do a job. This is unjust and revolting, for many of these persons can be gainfully employed especially if selective job placement is initiated. A drop in income or retirement produces economic problems making it more difficult to meet everyday needs. Retirement years should be the time for enjoying all of the things that there was no time for in one's earlier years. We cannot assign people to a life of inactivity. One may be disabled, yet he will have no handicap in performing at a job that is matched to his physical and mental abilities. Let us not use the words "disability" and "handicap" interchangeably. The benefits derived by both the older person and his family are many when his health and ability to be useful are maintained. Physicians through their state and local medical societies must furnish the leadership and cooperation in all community programs for the sick person.

Rehabilitation has proved its worth in the total care of the sick and disabled, and through cooperative working together with all those who attend the sick—either directly or indirectly—the lives of the sick and injured population can be filled with a measure of happiness and the comforting feeling of "being wanted." A little care, understanding, and companionship go a long way. Education, the highest caliber of clinical care, and intensified research will give renewed hope and success in providing adequate medical care for those in need. The number of approved medically supervised rehabilitation centers, nursing homes, homes for the aged and other suitable living environments must be increased. More funds are greatly needed. Rehabilitation is economically sound, but what is more important—it is our sacred duty to mankind. Let us respect the sick person regardless of age and accept the obligation of helping him maintain or regain his health and his place in society.

Summary

1. The philosophy and scope of Physical Medicine and Rehabilitation as part of the total management of the sick have been set forth. Application of physical medicine and rehabilitation to the various disabilities, including those resulting from degenerative diseases and aging, has been emphasized and encouraged.

2. The physician must shoulder the responsibility of the direction, guidance and supervision of the rehabilitation program. If possible, the services of at least a part-time physiatrist (physician specialist in Physical Medicine and Rehabilitation) would be extremely beneficial for the proper functioning of the program and the rehabilitation of the sick.

3. The necessity of having physical medicine and rehabilitation services in all hospitals, institutions, and centers, is emphasized and the need for more trained personnel in this field

is stressed. Attention is called to the diagnostic and evaluation procedures available through the physical medicine and rehabilitation service, and to the many different types of therapy that are available.

4. Maintenance rehabilitation procedures must be continued after the patient is discharged to his home, nursing or convalescent home, or other environment, so that he will continue his self-care activities and to prevent regression to a state of helplessness and hopelessness.

5. The patient's family must be advised as to the care he will need after discharge from the hospital and how this care can be secured to meet the individual's specific needs. This makes for better acceptance of the patient by his family, leading to a happier environment.

6. The difference in meaning between the words "disability" and "handicap" is delineated. One may be disabled but not handicapped in performing a productive job if selective job placement is followed. Vocational rehabilitation is frequently essential.

7. Continued research, as well as education of the public including the patient, his family and employer, is vital in order to improve all medical care and rehabilitation technics. What appears to be insurmountable today will be conquered tomorrow.

8. Finally, the dignity of the sick and disabled should be respected and there should not be a feeling of hopelessness and despair in the patient or in those that are responsible for their care. All available resources through federal, state and local agencies and services should be sought. The job of rehabilitating the vast number of sick and injured persons is tremendous and increasing. Utilizing the team approach of all services at the hospital or institution, those concerned with the rehabilitation of the sick and disabled will be gratified to find that a greater measure of useful living and happiness can be realized than was thought possible heretofore.

Acknowledgment: To the Physical Medicine and Rehabilitation staff and the other hospital personnel at the Veterans Administration Research Hospital, the authors are most grateful for their magnificent help and cooperation in the total rehabilitation program. To the Medical Illustration Service, we express our thanks for the excellent photographs. Appreciation is expressed to the Orthopedic Appliance Service at the Veterans Administration Hospital, Hines, Illinois, for fabricating the braces, pylons, etc.

References

1. Self-Care Activities — Functional Evaluation, Form 10-2617. Washington, D. C., Veterans Administration (June) 1953.

2. Newman, L. B.: A New Device for Measuring Muscle Strength—the Myometer. Arch. Phys. Med. & Rehab., 30:234, 1949.

3. Krusen, F. H.: Physical Medicine and Rehabilitation for the Clinician. Philadelphia, W. B. Saunders Co., 1951.

4. Newman, L. B.: The Role of Physical Medicine and Rehabilitation in Chronic Medical Diseases. Amer. Practitioner and Digest of Treatment 7:47-60 (Jan.) 1956.

5. Licht, S.: Electrodiagnosis and Electromyography. Elizabeth Licht, Publisher. New Haven, Conn., 1956.

6. Newman, L. B.: Total Rehabilitation in Heart Disease, J.A.M.A. 176:114-117 (April) 1961.

7. Rusk, H. A.: Rehabilitation Medicine, C. V. Mosby Co., St. Louis, Mo., 1958.

8. Self-Help Devices for Rehabilitation, New York University-Bellevue Medical Center, Dubuque, Iowa, William C. Brown Company, 1960.

9. Newman, L. B.; Wilson, R. S.; and Stratigos, J. S.: Dignified Living for the Severely Disabled—The Role of Physical Medicine and Rehabilitation, Quarterly Bulletin, Northwestern University Med. School, Chicago, Vol. 35; No. 1:61-69 (March) 1961.

10. Davis, L.: Christopher's Textbook of Surgery, Philadelphia, W. B. Saunders Company, 1960.

11. A New Approach to the Rehabilitation of the Blind, V. A. Pamphlet 10-32, Washington, D. C., Veterans Administration (Feb.) 1950.

12. Manual of Cerebral Palsy Equipment, Chicago, The National Society for Crippled Children and Adults, Inc., 1950.

333 East Huron Street

RECENT PROGRESS

MENTAL RETARDATION

This is a review of some of the current knowledge and recent advances in the diagnosis and treatment of mental retardation. The purpose of this paper is not to review the entire field, but to present to the physician those aspects of mental retardation which will make him aware of the trends in this field, not only with regard to the medical aspects of the problem but also with regard to its social aspects. The perspective of this review is that mental retardation is not a single disease entity, and that no one profession or agency can offer a complete understanding of the problems or comprehensive plans for the care of the retarded. The problems concern not only physicians, social workers and teachers, but most importantly, concern the legislators and social planners.

JOSEPH J. REIDY, M.D., Baltimore, Maryland

I. The first consideration is a statistical one. Although many of the statistics relating to mental retardation are only approximate, we are gaining a fairly accurate picture of the size of many of the problems presented by the mentally retarded. There are more mentally retarded persons than in previous decades and they are living longer. This occurs because there is an increase in population but no decrease in the incidence of mental retardation. It occurs also because improvements in obstetrical and pediatric practice have preserved more premature infants and deformed children. The percentage of mental retardates in the population has been estimated as two to four percent, with the figure of three percent widely used. Using the three percentile, the number of mentally retarded in the United States approaches five and one-half million. Ten years from now, if the percentage remains constant, there will be an additional million mentally retarded.[27]

The retarded have been classified as *mild* or *educable* (I.Q. 50 to 70), *moderate* or *trainable* (I.Q. 25 to 50), and *severe* or *custodial* (I.Q. below 25). Of the total number of the retarded, eighty-four percent are educable, thirteen percent are trainable and three percent are custodial. A further functional classifica-

Dr. Reidy is Assistant Commissioner in the Department of Mental Hygiene, State of Maryland.

tion considers those persons with *severe* retardation as being totally dependent, those with *moderate* retardation as being partially dependent in a sheltered environment, and those with *mild* retardation as being intermittently dependent under stress conditions. There are, in addition, from six to twelve percent of the total population classified as *borderline,* or *borderline dull* (I.Q. 70 to 85) many of whom are in need of special educational and social planning in order for them to become productive and independent adults.[8]

As a public health problem, mental retardation is as great as any in the history of our country. The numbers of persons institutionalized for mental retardation is surpassed only by those institutionalized for mental illness. Although no more than four percent of the mentally retarded are institutionalized at any one time, mental retardation accounts for more than two hundred and fifty million dollars annually in public institutional costs. For the two hundred thousand mental retarded in institutions (ninety-five percent in public institutions), this amounts to less than three dollars per day spent on their care. For the ninety-six percent of retardates outside institutions, there are not enough adequate programs in education and rehabilitation. To meet this overwhelming public health problem, there has, until recently, been little organization and mobilization of community and national resources.

II. That mental retardation is not a single clinical entity becomes evident when we study the etiology and diagnosis of mental retardation. The first knowledge came from the neuropathological laboratories describing degenerations and defects of brain tissue. Shortly after the beginning of the present century, biochemistry and genetics began to give us more information regarding mental retardation. Lately, psychiatry and the social sciences have made significant contributions to our knowledge of the problems of mental retardation. For a review and comprehensive classification of the neuropathology of mental retardation, I refer the reader to the article by Courville.[2] Here I wish to touch on the contributions of biochemistry, genetics, psychiatry and the social sciences.

In 1902, A. E. Garrod presented studies on a metabolic disease which he called alkaptonuria and he postulated that this was due to an hereditary biochemical defect. He further proposed that the specific biochemistry of cellular metabolism was regulated by specific genes. In 1908, he used the term "inborn errors of metabolism" to classify the diseases of cystinuria, pentosuria and albinism which he grouped with alkaptonuria. In 1934, Fölling, a Norwegian biochemist, described the disease we know as phenylketonuria, and this disease satisfied the criteria proposed by Garrod for the "inborn errors of metabolism:" clinical abnormality, gene and enzyme. Clinically, the patient with phenylketonuria has severe mental retardation with I.Q. usually below 50, excretes strongly aromatic urine, has lightening in the color of his hair, eyes and skin. Few of these persons learn to speak and over twenty-five percent have epileptic seizures. Children so affected appear normal at birth, but after a few months show lag in development and by the age of two or three years are severely retarded. The biochemical abnormality is due to the absence of an hepatic enzyme, phenylalanine hydroxylase. Without this enzyme, the patient cannot oxidize the essential amino acid phenlylalanine to tyrosine and he excretes phenyl acids, especially phenylpyruvic acid, in the urine. When a ten percent aqueous solution of ferric chloride is added to the urine, a characteristic green color is produced. It was shown that phenylketonuria is a recessive trait transmitted by a single autosomal gene. Of particular significance is that this abnormality can be detected in the neonatal period by a simple urine test and that the development of mental retardation in these infants can be prevented by a diet low in phenylalanine.

It is estimated that phenylketonuria accounts for about one percent of institutionalized mentally retarded patients. About five percent of the institutionalized mentally retarded have

hereditary metabolic disorders and over three hundred hereditary metabolic disorders have been described.[15] We can institute preventive measures in only a few of these conditions such as phenylketonuria and galactosemia, but further research may greatly reduce the number of persons who become mentally retarded because of inborn errors of metabolism, just as research has reduced the incidence of mental retardation due to thyroid deficiency.

The syndrome of mongolism, first described by Seguin in 1846, accounts for large numbers of the mentally retarded. Until recently, there were many theories but few facts about its cause. The newer techniques developed for the study of the structure of the chromosome have given us valuable knowledge of mongolism. It was found that the human cell has forty-six rather than forty-eight chromosomes, and abnormal chromosomal patterns have been discovered in Turner's syndrome, Klinefelter's syndrome, and recently in Mongolism. The work of Ford in England demonstrated that in Mongolism one of the chromosomes of the twenty-two pairs of autosomal (nonsexual) chromosomes fails to fuse correctly with its partner. He states that the child who develops mongolism does not have an "extra" gene or a defective gene as postulated by earlier workers, but after conception the chromosome either "borrows" some genetic material from another part of the cell or allows itself to be "captured" by another chromosome. This chromosomal imbalance is irremedial. Although these discoveries have not shown the way to prevent Mongolism, they are significant steps in understanding and ultimately preventing a deformation which occurs once in every seven hundred live births and which accounts for over ten percent of the admissions to state schools for the retarded.

Important additions to our knowledge of the etiology of mental deficiency have been the studies regarding pregnancy, delivery and certain diseases and injuries in infancy and early childhood. In contrast to the genetic type of causation described above, these causative factors are environmental or exogenous. They may be grouped into prenatal, perinatal, and postnatal causes. Hemorrhage during pregnancy, toxemia, and prematurity have been shown by Pasamanick and co-workers to be associated with an increased incidence of mental retardation. It is not possible to determine at this time how much of this "reproductive failure" may be due to genetic causes, how much to intrauterine causes operative at the time of the pregnancy, and how much to factors present before pregnancy which, in a non-genetic way, impair the mother's capacity to produce normal offspring. Abnormalities and mental retardation can be produced by a variety of physical agents, most important of which are radioactive materials (which can also produce genetic mutations), heavy metals and certain organic compounds such as quinine and colchicine. Vitamin deficiencies and endocrine disturbances, particularly of insulin and corticosterone can also produce fetal abnormalities. (This does not pretend to be a complete listing of physical causes, but the reader will find a summary of the literature in the book by Masland, Sarason, and Gladwin.)[5, 14]

Birth injuries, neonatal anoxia and the role of the encephalitides in the production of mental retardation have all been extensively studied. Although there is no question that these play a role, it is difficult to predict in any given individual what permanent damage may result, and to judge retrospectively the influence of a difficult birth or a severe viral disease in the production of mental retardation is most difficult. For those patients who show no signs of focal neurological damage, whose symptoms may be limited to impaired intellectual ability and disturbed behavior, the diagnosis of brain damage is only presumptive. This is so even when there is a history of difficult birth, neonatal anoxia or encephalitis. In many instances, the electroencephalogram of the child will show patterns which are atypical, but which have no significant correlation with mental retardation or disturbed behavior. Identical patterns can be found in siblings, relatives, and in non-disturbed persons in the general population.

Other environmental factors in the produc-

tion of mental retardation are found in the emotional life and cultural ways of the families of the mentally retarded. From the time Dugdale[3] described the Jukes family, about fifty years ago, and Goddard[7] wrote about the Kalikaks, the literature has been filled with discussions of the controversial "familial mental retardation."

The problem here is not with those persons of severe retardation but those of moderate or mild retardation where the defect cannot be explained in terms of specific causes such as phenylketonuria or maternal rubella. There are many factors of heredity and environment contributing to the retardation and these are extensively discussed in Sarason's "Psychological Problems in Mental Deficiency.[24] Recent research highlights the social factors in retardation and a report to the N. Y. State Interdepartmental Health Resources Board[23] showed that "the proportion of low grade retarded in different ethnic and income groups was roughly similar to the ethnic and income distribution of New York City as a whole. In contrast, high grade retardation was found several times as often among the members of the underprivileged groups than would have been expected from their distribution in the city population as a whole." When the environment is characterized by physical deprivation, lack of stimulation and encouragement, inconsistent patterns of handling, there is little incentive to develop intellectual and social skills. The child from such environments has less opportunity for learning than the one from a stable and stimulating cultural setting.[1, 12, 21]

III. Since this is a public health problem, the role of public agencies—federal and state —need to be considered. Traditionally, the function of the state agencies has been to provide custodial care and some training and education. Although advances have been made in treatment and rehabilitation of the mentally retarded, these services have not been available except on a limited basis. The extent and quality of services can be studied in the categories of (a) institutional, (b) community diagnosis and treatment, (c) school.

A. Institutional

The institutions are large, overcrowded and understaffed. In September 1959, the American Hospital Association listed sixty-one public institutions for the mentally retarded. Only eight of these institutions were approved by the Joint Commission on Hospital Accreditation, only three approved for residency training. Twenty-three institutions had populations of over two thousand patients, three over five thousand. Many of the institutionalized mentally retarded are not even in institutions for mentally retarded but in the state hospitals for the mentally ill. The master register of hospitals shows that, in 1959, the nation's two hundred and sixty-four institutions for mentally retarded provided ninety-three thousand, two hundred and eighty-seven beds. Of these, the eighty-seven state-owned institutions provided 92.8 percent of the total beds.

It is estimated that less than four percent of the mentally retarded are in institutions. If we attempt to estimate whether this is an adequate measure of the number of persons who need institutional care, we encounter many difficulties. Many persons are sent to institutions because the communities do not have other, more appropriate methods of care, or because custody in a very large institution appears to be the cheapest form of care. On the other hand, a number of states have received reports from special commissions of mental retardation calling for building of new institutions. Some states at this time are building new institutions for the care of the mentally retarded, and have appropriated large sums for capital expenditures. Pennsylvania recently appropriated in excess of forty-one million dollars; New York over thirty-eight million; Minnesota over sixteen million; Illinois over thirteen million, and the states of California, Virginia, Florida and North Carolina have each appropriated more than ten million dollars. In 1960, a subcommittee of the Medical Care Committee of the State of Maryland called for the immediate construction of an additional hospital of one thousand beds.[10] A committee of the Wisconsin Legislative Council saw the

possible need of a fourth institution for mentally retarded in that state (they are constructing the third institution). The Commission on Mental Retardation of Illinois recommended six institutions be constructed to care for approximately seven thousand mentally retarded.[10, 21] In Indiana, the Mental Retardation Planning Committee found that, in 1959, the three state facilities for the retarded were overcrowded by one thousand, one hundred and sixty-two patients and there were an additional nine hundred and forty patients on the waiting lists. This Committee recommended the immediate construction of eight hundred and ten beds, including three new small facilities.[19]

These and similar recommendations in other states are made both to relieve present overcrowding and to provide for numbers of retarded to be added to the population in the next ten years, if present trends continue.

One only has to walk through the many buildings and wards of the typical state institution for the retarded to appreciate the gap between what is presently offered and what could be done for these patients. The average annual per capita expenditure of $1250 explains why many patients are barely adequately housed and fed, receive insufficient medical care and often no rehabilitation. Salaries are too low to attract the too few trained people to these institutions. Those well qualified and dedicated individuals, few indeed, who do stay on despite the never sufficient budget, the indifference and at times hostility of the community, are responsible for the small progress that has been made in the public care of these patients.

We note several directions in the planning for institutional care for those who are in need of it. Since it is impossible at once to abolish or shrink to a reasonable size all of the large institutions, *one proposal is to divide the large institutions into several small institutions.* This plan recognizes that the population of the typical public institution for the retarded is not homogeneous. There are at least six groups of patients, each requiring a different physical environment, and each needing a different treatment approach.

- Those are the severely retarded, multiple handicapped patients, who are not rehabilitable and require custodial and bedside nursing care. Often such care is best done in a medical-surgical type of hospital.
- There are the moderately or mildly retarded, multiple handicapped patients who can often benefit from specialized types of training and rehabilitation. I think here particularly of the blind, the epileptic, the cerebral palsied.
- A third and fourth class consists of the physically non-handicapped who are in the trainable and educable groups.
- A fifth class includes the mentally retarded who have emotional problems varying from psychosis to adjustment reactions.
- A final class includes the elderly and infirm adult whose problems are similar to those of the elderly and infirm in any population. Grouping the population into such independent units, each with the type of staff best trained to minister to the needs of its particular patients is one step towards better treatment. The goal of small units is often made difficult by the construction of many buildings which are no more than large dormitories, often housing several hundreds of patients.

A second direction in planning is *to locate new hospitals, not to exceed five hundred beds within reasonable commuting distance of the families of the patients.* Only a small start has been made in this direction. Unfortunately, those who plan such facilities and those who appropriate funds for their construction still tend to think of large institutions. This is, I believe, because they consider the institutionalized patient as custodial, not treatable. The cost of treating adequately and restoring to independent and semi-dependent status those large numbers of trainable and educable patients is enormous and the taxpayers of most localities are not prepared to undertake this responsibility.

A third direction is *to build institutions designed only for specific types of retarded.* Illinois has recently completed a five hundred and

seventy-five-bed hospital for mentally retarded handicapped children up to six years of age. In its proposal for the new institution in Maryland, the State Department of Mental Hygiene has asked that it be constructed in two stages, the first stage being a hospital for those patients needing intensive medical and nursing care. If other types of facilities are developed in the community, the Department would hope that there would be no need for construction of the second stage for ambulatory mentally retarded. The institutions which exist are not always used to the best advantage. In most states, the medical staff has no control over admissions; in these states the court has the power to commit persons to the institution. There are courts which use this power wisely, availing themselves of competent medical, psychiatric and social service consultation. But in many instances, the superintendent is powerless to prevent admission of persons for whom institutionalization is not indicated. The decision to send a retarded person to an institution is one which cannot be quickly made and one which must not be made solely on the degree of retardation presented by the patient. Social considerations must play a large part in the decision, and since these social and economic conditions are ever changing, many of the reasons justifying institutionalization in past decades are not valid. In a very general way, I would like to present some reasons for institutional care.

1. Those retardates who are anti-social or seriously mentally ill, who because of these factors are a danger to themselves or others, should be institutionalized. These persons, once institutionalized, constitute one of the most serious problems for the institution. The modern institution for the retarded, like the modern mental hospital, should be an open institution. The patients should preserve contact with the community so that their social growth may be furthered. If it is an isolated, closed institution, the patients will make the institutionalized existence their total way of life. But the seriously delinquent and the psychotic mentally retarded need control. The answer should be not in cells and bars but in sufficient personnel so that these patients can have adequate supervision.

2. Those patients with such gross retardation and multiple handicaps that they can never live outside of a sheltered environment, or will require almost constant nursing care. Not every one of these persons will need total institutional care. The State of Delaware has demonstrated in the past four years that many severely retarded persons can live at home and be trained in daytime centers.[11, 12] The Joseph P. Kennedy Child Center in New York City has also demonstrated this, as have several other daytime centers throughout the nation.

3. There are those retardates who require an excessive share of the parents' time and strength, or who disorganize family life. Some of these patients can be cared for in daytime centers, but others need full-time institutional care. This type of care need not be continuous, but in some instances, institutional care can be of a temporary nature to offer the family relief during periods of illness or other stresses, to allow the family to take needed vacations. There have been very few studies of how caring for a severely retarded child affects the family. Three recently published ones are by Holt,[9] by Schoenell and Watts,[25] and by Farber.[4] Farber's study is the most carefully controlled, and it demonstrates that the severely mentally retarded child adversely affects family integration.

4. There are retarded persons who are without homes. Many of these must go to the institution because foster home programs have not developed enough to meet this need.

5. There are many retarded persons who go to institutions because they live in communities where there are no facilities for special training.

B. Community Diagnosis and Treatment

Beginning with the fiscal year of 1956-57, Congress has specified each year that one million dollars of the money it appropriates for maternal and child health services is to be spent on services for mentally retarded children.

This money goes to local health departments to establish special clinics to examine the mentally retarded child and to determine his disabilities. These clinics help parents through counselling and by means of visits by the public health nurse who assists and instructs the mother in the care of her child. The clinics also provide specialized medical treatment or aid in the referral of the child to other treatment facilities. In 1955, two special demonstration clinics were approved and, in 1958, thirty were approved. Ten years ago, there were no clinics to provide comprehensive evaluation of a retarded child and guidance to his family. In 1958, seventy-seven clinics served over eight thousand. This, of course, is but a beginning. The recent study in New York City[23] showed that in the retarded who were committed to institutions only twenty percent had a complete diagnostic workup prior to their appearance at a commitment center. The Illinois Commission on Mental Retardation found, in 1958, that "there are no specialized diagnostic and counseling services (except for a small center in Chicago) for the mentally retarded and their families."

For all of the community services—foster care, day care centers, sheltered workshops, recreation centers, vocational training and placement centers—there is the same story of only the smallest beginning in some communities. That such community facilities can appreciably lower the institutional population is shown in countries such as England and Holland. Holland, with a population approximately equal to the State of New York, institutionalizes only one-third as many retarded as New York State.[17] And many studies have supported the belief that, in general, the handicapped person does better intellectually, socially and emotionally if he remains at home.

Two findings of Saenger[23] regarding community agencies are of interest. A large number of mentally retarded were examined at general hospitals but once the diagnosis was made the general tendency was to recommend institutional care. The doctors and social workers at these hospitals did not offer to the family treatment so that the child could remain at home. A second finding was that mental hygiene clinics do not accept mentally retarded children for diagnostic workup or treatment, because "they believe that retarded persons will not benefit from psychotherapy." These clinics did not provide services to the parents of retarded children.

C. The School

The public school systems have made perhaps the greatest advances in the care of the retarded.[6, 20] The trainable and educable child and his parents receive great benefits from the classes provided. Not only is the child helped in his training and social growth, but his parents are given some measure of relief from the burdens of caring for the retarded child.

Although some school systems provide classes for the trainable mentally retarded, not all educators consider their care the responsibility of the schools. Provisions for their care in the school systems tend to be less than provision for special classes for the educable retarded.

Surveys indicate that slightly over two percent of the school population is retarded; there are, therefore, approximately one million children in the age range of five to seventeen in need of special education. In 1957, there were in Illinois five hundred and fourteen public school classes for educable mentally retarded, but the Commission on Mental Retardation estimated conservatively that between one thousand and fifteen hundred additional classes were needed. In 1957, there were in that State twenty-five public school classes for trainable mentally retarded and the Commission on Mental Retardation estimated that two hundred to three hundred and fifty additional classes were required. In 1960, the State of Maryland was not providing classes for all mentally retarded who were in need of special class placement even though there were over twelve thousand educable and one thousand trainable mentally retarded in special public school classes.

IV. It is not sufficient for the physician in

the course of his continuing medical training to be aware of the new discoveries in the diagnosis and treatment of mental retardation. His concern must be for the implementation of institutional and community programs for mentally retarded. The greatest impetus to develop such programs has come from parents of the mentally retarded, through the national, state and local organizations for the mentally retarded.

Physicians and organized medicine have not been notably active in alleviating this great social and public health problem. There are in every state organizations for improving the care of the retarded and many states have appointed Governors' Commissions or Legislative Committees on Mental Retardation. It would be well if the physician turned to these groups for help in finding the proper treatment facilities for his retarded patients and his active interest in the work of these groups is most necessary.

Bibliography

1. Cassel, R. H.: "Notes on Pseudo-Feeblemindedness," Training School Bulletin, 46:119-127, 1949.
2. Courville, C. B.: "Classification of Mental Deficiency on an Etiological-Pathological Basis," Bull. Los Angeles Neurol. Soc., 22:10-19, (Mar.) 1957.
3. Dugdale, R. L.: The Jukes: A Study in Crime, Pauperism, Disease and Heredity, New York, G. P. Putnam's Sons, 1910.
4. Farber, B.: "Effects of a Severely Mentally Retarded Child on Family Integration," Monographs of the Society for Research in Child Development, Vol. 24, No. 2, 1959.
5. Ford, F. R.: Diseases of the Nervous System in Infancy, Childhood and Adolescence, Springfield, Ill., Charles C. Thomas, 1952.
6. "Four-County Project for Retarded Children," (mimeo.) Minnesota State Department of Health, Minneapolis, 1959.
7. Goddard, H. H.: The Kallikak Family, New York, Macmillan, 1912.
8. "Basic Considerations in Mental Retardation: A Preliminary Report Formulated by the Committee on Mental Retardation" Group for the Advancement of Psychiatry, New York, Report No. 43, December 1959.
9. Holt, K. S.: "Home Care of Severely Retarded Children," Pediatrics, 22:744, 1958.
10. "An Integrated State-Wide Program for Mentally Retarded Children," Committee on Medical Care, Maryland State Planning Commission, Baltimore, 1960.
11. Jubenville, C. P.: "Help for the Mentally Retarded in Delaware," Del. State Medical J., 31:226-230, (Aug.) 1959.
12. "Day Care Centers for Severely Retarded Children," Nursing Outlook, Vol. 8, July 1960.
13. Kanner, L.: "Feeblemindedness: Absolute, Relative, and Apparent," The Nervous Child, 7:365-397, 1948.
14. Masland, R. L., Sarason, S. B. and Gladwin, T.: Mental Subnormality, New York, Basic Books, Inc., 1958.
15. Menkes, J. H., Hurst, P. L. and Craig, M. M.: "Progressive Familial Infantile Dysfunction," Pediatrics, 14:462, 1954.
16. "Mental Health and Problems of Children and Youth," Wisconsin Legislative Council, 1959 Report, Vol. II., Madison, Wisc., 1959.
17. Mental Health in the Netherlands, Ministry of Social Affairs and Public Health, The Netherlands, 1954.
18. Mental Retardation, A Selected Reading List, Reference Guide No. 7, National Institute of Mental Health, Bethesda 14, Md., 1959.
19. The Mental Retardation Planning Committee Report, Indiana, September 1960.
20. "The Need of Services for Mentally Retarded Children," (Mimeo). (A Survey in Hennepin County), Community Welfare Council, Minneapolis, Minn., 1953.
21. Problems in the Differential Diagnosis of the Etiology of Mental Deficiency, Illinois Commission for Handicapped Children, Chicago, 1952.
22. "Report of the Commission on Mental Retardation," Springfield, Ill., 1958.
23. Saenger, G.: Factors Influencing the Institutionalization of Mentally Retarded Individuals in New York City, New York State Interdepartmental Health Resources Board, Albany, N. Y., 1960.
24. Sarason, S. B.: Psychological Problems in Mental Deficiency, New York, Harper and Brothers, 1953.
25. Schonell, F J. and Watts, B. H.: "A First Survey of the Effects of a Subnormal Child on the Family Unit," Am. J. Ment. Def., 61:210, 1957.
26. "A Study of the Problem of Mental Retardation in the City of Philadelphia," The Philadelphia Commission on Mentally Retarded, 1956.
27. "The Young With Mental Handicaps," Information Sheet, Forum XV, White House Conference on Children and Youth, Washington, D. C., 1960.

301 West Preston Street

L-Glutavite as a Therapeutic Aid in Mentally Retarded Children

HYMAN GOLDSTEIN, M.D., New York, New York

Mental deficiency in children can be defined as an arrested mental development due to genetic influences, emotional disturbances, disease, or brain injury, which hinders mental responses. Mental retardation of children in turn is of two types, i.e., congenital acromicria syndrome (mongolism), and non-mongoloid brain affliction. Since we have about two million retarded children in the United States, and in equal proportion of childhood population in other nations, it is obvious that mental retardation is an important problem, and a challenge to us.

Himwich, et al[1] found that the normal child's brain consumes 14.2 mg. carbohydrate and has an 8.59 volume percent oxygen uptake from each circuit of the blood through it. This is required for proper fuel, energy supply and cerebral functions. The mentally retarded child consumes about fifty-seven percent less carbohydrate in his cerebral metabolism and its oxygen uptake. This decrease correlates with the degree of mental retardation.

Weil-Malherbe[2] was first to point out that glutamic acid participates in an essential manner in brain metabolism. This amino acid is able as is glucose to pass the brain barrier rapidly either as glutamic acid or glutamine. Its metabolic transformations which also tie in with the Krebs cycle, are now understood to involve transamination which establishes the equilibrium between glutamic acid and glutamine, and decarboxylation of the glutamic acid to gamma aminobutyric acid (Roberts[3]) which is suspected to be the key factor in regulating the electrical activity in nerve cells.

The enzyme systems which catalyze the amination of glutamic acid to glutamine (and vice versa) and the decarboxylation to gamma aminobutyric acid require pyridoxine as coenzyme.

Zimmerman and associates[4] reported acceleration of mental development in children following a period of glutamic acid administration in big doses to reach a peak within a year of the medication. The author, in 1954, reported similar results in a clinical research study treating mongoloid and non-mongoloid

mentally afflicted retarded children with glutamic acid, as compared with other methods of therapy.[5]

In 1958, the author, reported highly encouraging results of a placebo-controlled study of mongoloid and non-mongoloid brain afflicted retarded children treated with 10 to 15 grams L-Glutavite daily.[6] This preparation contains monosodium glutamate combined with pyridoxine and other B-complex vitamins of the cell-respiration stimulating type (riboflavin and niacin).

This study has now been extended and continued on larger scale and its results based on quarterly observations up to the present are presented in this report.

Methods and Materials

This study comprises a total of two hundred and fifty-one instances of mentally retarded children from two to fifteen years old, mostly about seven years. Sex distribution was slightly in favor of females. The entire group included one hundred and twenty-four of the non-mongoloid brain-afflicted type and one hundred and twenty-seven mongoloids with congenital acromicria syndrome. Thirty of the one hundred and twenty-four non-mongoloid and forty-nine of the one hundred and twenty-seven mongoloid were used as controls and not given L-Glutavite, the others received the dietary adjuvant for periods of from three to twenty-four months, on the average for seven months. The preparation was mixed with juices, milk or strained foods, at a daily dosage of 10-15 grams, divided into two or three doses. Used in this form, the product is fully palatable and was readily accepted.

At the beginning of the study we experimented with several monosodium glutamate preparations: L-Glutavite®* powder and capsules and Glutazyme®† powder and capsules. No difference in effectiveness was found, but after a few months we used L-Glutavite powder exclusively, since it was preferred by the children, was more readily miscible with juices or food, and also less costly.

The children were not institutionalized and administration of the preparation was handled by the mothers. The children were examined at intervals, of one to three months, at which time the mothers were interviewed regarding their impression of the child's progress. In the examination, emphasis was on the following points:

1. Changes in alertness, comprehension and intelligence.
2. Lengthened attention span and improved concentration power.
3. Better behavior, emotional adjustment.
4. Awareness of surroundings and environment of objects and persons.
5. Improved communication and speech, poise and happiness, and cooperation.
6. Changes in motor coordination and performance of simple skills.
7. Improved toilet, eating, sleeping, hygiene and dressing habits.

Discussion of Results

Improvement of the children receiving L-Glutavite as dietary supplement was apparent in their state of mind, their mental responses, improved attention-span, happier mood, improved social maturity rate and performance in simple skills. The children became more receptive to learning. Their awareness of and interest in the environment increased which demonstrated itself by active participation in games and play groups.

Table I gives in detail the response of ninety-four non-mongoloid brain-afflicted retardates and seventy-eight mongoloid children to L-Glutavite in comparison to thirty and forty-nine controls receiving no L-Glutavite. The high number and percent of children showing excellent response is apparent in both groups of children receiving the supplement.

The need for long-term treatment will be recognized from Table II which shows the results obtained after therapy extending from

* L-Glutavite was supplied by Crookes-Barnes Laboratories, Inc., Wayne, New Jersey.

† Glutazyme was supplied by The Purdue, Frederick Co., New York 14, New York.

TABLE I DEGREE OF IMPROVEMENT UNDER L-GLUTAVITE® THERAPY

	Non-Mongoloid Retarded 94 cases treated, 30 controls						Mongoloid 78 cases treated, 49 controls					
	Excellent		Fair		Poor		Excellent		Fair		Poor	
	T	C	T	C	T	C	T	C	T	C	T	C
No. of cases:	60	15	25	6	9	9	56	23	18	15	4	11
% of cases:	64	50	26	20	10	30	75	46	20	31	5	23

T—Treated; C—Control

TABLE II IMPROVEMENT IN CORRELATION WITH DURATION OF THERAPY

Duration of Therapy	3 Mos.	6 Mos.	9 Mos.	12 Mos.	15 Mos.	18 Mos.	24 Mos.
Non-Mongoloid Retarded							
No. of cases	5	6	4	13	1	7	58
% of total of 94 cases	6	7	4	14	1	8	60
% of cases of this group showing improvements—	12	19	27	35	40	60	75
good improvement and fair improvement, respectively	6 6	10 9	15 12	25 10	27 13	43 17	55 20
Mongoloid							
No. of cases	7	11	3	12	3	10	32
% of total of 78 cases	9	14	3	15	3	13	43
% of cases of this group showing improvements	12	25	30	45	55	67	88
good improvement and fair improvement, respectively	5 7	12 13	17 13	30 15	38 17	48 19	70 18

three months to two years. In both groups of retarded children, improvement gauged both as percent of cases responding to the treatment and as degree of progress made, increased progressively with prolonged therapy.

It is evident from Tables I and II that the seventy-nine children in the untreated control groups (thirty non-mongoloid and forty-nine mongoloid) showed some gains during the period of observation, but their improvement in the various categories was from twenty to thirty-five percent less than the treated group receiving L-Glutavite.

We observed no untoward side effects from L-Glutavite. Food to which the preparation had been added was readily accepted by the children, an important factor in long-term therapy.

Summary

Ninety-four non-mongoloid brain-afflicted retarded children and seventy-eight mongoloid (congenital acromicria syndrome) children were treated with L-Glutavite® as a dietary aid to therapy for periods from three months to two years. The preparation contains monosodium glutamate and the B complex vitamins stimulating cell respiration and brain metabolism.

In comparison to thirty non-mongoloid retarded and forty-five mongoloid children used as controls and not receiving L-Glutavite, the treated children showed gains in mental responses much greater than those of the controls.

The percent of treated cases showing benefit and the degree of improvement both increased progressively with the duration of treatment. Whereas of the children having received L-Glutavite for only three months, twelve percent each of the non-mongoloid mentally retarded and of the mongoloid children improved significantly, the corresponding figures for treatment of two years' duration are seventy-five and eighty-eight percent respectively. Daily dosage of L-Glutavite was ten to fifteen grams divided into two or three doses.

In this study, L-Glutavite proved to be a valuable adjuvant in the therapy of mentally retarded children. There were no adverse side effects.

Bibliography

1. Himwich, H. E., et al: Am. J. Ment. Def. 45, 137, 1940.
2. Weil-Malherbe, H.: Biochem. J. 30, 665, 1936.
3. Roberts, E., et al: Proc. Soc. Exp. Biol. Med. 97, 796.
4. Zimmerman, F. D., et al: J.A.M.A. 61, 275, 1949.
5. Goldstein, H.: Arch. Pediatr. 71, 77, 1954.
6. Goldstein, H.: Ibid. 75, 89, 1958.

317 East Seventeenth Street

WHAT'S THE DOCTOR'S NAME

Identify this famous physician from clues in brief biography.
PAGE 67a

SPECIAL ARTICLE: A RUDIMENTARY APPROACH TO

EGO STRENGTHENING

EDWIN F. ALSTON, M.D.
ANNE WILDER, M.D.
SAMUEL HOCH, M.D.
San Francisco, California

We physicians, after centuries of painstaking progress in the accumulation of knowledge, have now at our disposal the means whereby we can guide an individual to the top physicial condition of which he is capable. We believe it should be possible to design a program that can bring the individual's psychological structure (or in psychiatric terms, that part of the mind known as the ego) to its optimal level of functioning. For several years we have been attempting to work out just such a program with a series of about forty patients. The program is still in a rudimentary stage. Experiences in trying to design and use the program, although they present many challenges and problems, seem to promise something of value. We hope they may be of some interest to physicians in other branches of medicine.

RAW MATERIAL: Every physician has to cope daily with the emotional problems of his patients. He is familiar with the manifestations in somatic disorders, mood and affect, drive, direction, and organization, thought processes, attitudes toward the self and others. He knows that these problems exist in everyone to some extent. They vary in degree from simple transient reactive states to severe, chronic, self-perpetuating disorganizations of the entire personality. Sometimes they gravely endanger the life of the patient or those around him. They always involve misery and suffering. Many emotional disturbances are stubbornly persistent and refractory to all treatments currently available. Perhaps a majority of patients go to physicians seeking some relief from their emotional disturbances. In any event, these problems often pose significant difficulties in the treatment of the patient, whatever his pathology.

The physician may make the following observations for himself. A close scrutiny of the daily lives of most people will reveal gross inadequacies in the distribution, balance, organization, and level of activities in their basic living routines. It will reveal subtle, unsuspected, but significant deficiencies in the fundamental psychological skills and systematic approaches essential to meeting effectively the problems and challenges of living.

Everyone has his own characteristic personality and behavior patterns, his basic routine of living. People remain pretty much the same in their basic patterns through the vicissitudes of life and the passing of years. On this basis we can make quite accurate predictions about individuals whom we know well. To be sure, we cannot always anticipate what is going to happen to them, but we can predict quite closely

how they will react. The adequacy of basic routines to cope with the stresses and strains of life varies enormously in people. We are all familiar with how some individuals profit from almost any experience in life, no matter how unfavorable it may seem. Other individuals are characteristically and repeatedly overwhelmed or frustrated even under the most benign and seemingly desirable circumstances.

Given this extraordinary variation in different individuals' capacities to deal with the vicissitudes of life, the natural question immediately arises: how can we evaluate an individual's basic routine not only from the standpoint of its adaptability, but also in terms of its internal structure? We think that such an evaluation can be made. Namely, in a rough way, from general knowledge and experience, we can say the following: In order to meet all of his needs, including those for growth and stability, each person should allot time and energy for personal care, interpersonal relationships, work, and recreation. There should be not only an adequate distribution of activities to include all of these areas, but there should be some sort of balance and organization between these activities. There should be an adequate level of activity on the whole to provide the individual with a forward momentum, and adequate central interests or pacemakers for the organization and regulation of his diverse activities.

What we observe in any individual, including ourselves, if we look closely, are basic patterns of personality, behavior, and living that fall far short of optimal internal organization and dynamics. We see excesses and deficiencies in various areas. For instance, a man may have developed his work routines to a high level of efficiency and he may obtain a great deal of gratification from them. At the same time, he may have neglected areas of personal care, play, and sociability to a degree that may eventually lead to great personal damage. We are sure that most physicians will be familiar with this possibility. In others, we see levels of inactivity, disorganization, and lack of interests that preclude optimal functioning. For instance, many women in our culture lack the organizing and stimulating influence of steady structured work and therefore suffer from the disintegrating effects of insufficient momentum and adequate guiding interest.

Frequently we observe organizing principles in the individual's personality and routines to be narrow, limited, fixed, and totally inconsistent with a high level of organization and flexibility. An individual whose guiding concerns are revenge, self-pity, blame, and self-justification, idealization of the past, etc. has within his own personality and behavior factors that favor further disintegration. One whose whole organization is focused on a single person, a very specific ambition, or any other particular circumstance, in contrast to one who is flexible in his response to organizing influences of life, is obviously more vulnerable to loss and internal disorganization. Excessive concern with one's own body or psyche is not adequate or sufficient as a pacemaker for optimal functioning. There is no need to enumerate structural defects that can and do appear in every individual's basic patterns. Suffice it to say that these are endless in number. They do not occur in isolation, but rather when there is one defect, there will be others. Often these structural defects are of such a character as to be self-perpetuating. In proportion to the internal deficiencies in the organization of his personality and behavior, an individual's adaptability to his milieu will inevitably be affected. He will not only be in conflict with his environment, but he will be in conflict with himself.

An individual's basic personality-behavior-living patterns are made up of a vast number of functions, systems, and attitudes. These exist on different levels of complexity. They are interdependent upon one another. From one individual to another, there are variations in the level of strength and usefulness of these functions. Some individuals have a repertoire of highly developed skills which makes it possible for them to meet any situation of life, within limits, effectively and creatively. Others have

such meager resources that they cannot cope with anything. Some are so impoverished that they are completely dependent upon others to deal with the world for them.

One level of functioning has to do with such faculties as perception, memory, association, comparison, contrast, anticipation, imagination, and communication. Another level of functioning involves abilities to focus and disengage attention, to develop and commit one's self to people, work, play, and other interests. Even more complex skills consist of planning and implementing life, short-term, and daily programs; developing standard operating procedures; following a systematic approach to the mastery of problems and the fulfillment of needs and wishes. Highest in the hierarchy of psychological functions are the guiding principles and ideals of the individual. These, whatever they may be, influence all of an individual's activities. They may or may not provide the basis for synthesis of these various activities and aspects of life. These are the pacemakers of his persoanlity, his behavior, his life.

What can we observe about these functions existing on different levels of complexity? We know that there may be profound deficiencies in strength and reliability of these functions on any level. An individual's powers of observation may be practically nonexistent; he may not be able to develop an interest in anything; effective planning may be an impossibility for him; he may be devoid of consistent effective principles and ideals. Functions on each of these levels and between levels are interdependent upon one another. An individual who is defective in his powers of observation can hardly fail to be weak also in his ability to be interested, his capacity for planning, his development of strong principles.

We know also that the more complex abilities are subject to development if they are regularly practiced, that they tend to become rusty or fade away when they are not used. A man who makes a point in all his actions of following his principles will find that they become and remain important factors in his life, gradually easier to follow. When exceptions are made in their application, his principles lose their power, and it becomes progressively more difficult for him to reinstate them as consistent guides for him in living.

We often tend to take basic functions such as perception, etc., for granted, assuming that an individual is or is not inherently adequate in them. Either he is a good observer or a poor one, and there isn't much he can do about it. But we believe that these faculties, too, are subject to development with use, to disintegration with neglect. With adequate training and practice in exercising them, these functions can be improved and developed to a high level of efficiency, in a way analagous to the practice and mastery of motor skills such as playing the piano or swinging a golf club.

There are some other facts of general importance that we can note at this point.

A patient's basic patterns of thought and behavior, i.e., his psychological resources, may be very inadequate to meet his needs for growth and stability. With them, such as they are, he may experience repeated misery and suffering. Nevertheless, what we constantly observe is that even with the clear-cut possibility of a change for the better, there is almost always a really formidable resistance to change. To cite a simple example, we think of a patient whose quality of interest in a particular woman had caused him to lose a fortune and to suffer staggering damage to his professional career, his marriage, his physical and mental health. The patient was fully aware of the consequences and futility of his infatuation. Nevertheless he was completely unable to extricate himself from this situation or even feel much incentive to do so. All of us have observed similar difficulties in more simple situations such as dealing with habits of smoking, drinking, and other excesses of all kinds. There is first the enormous holding power of habit, custom, or fixation. There is second the inherent difficulty of establishing different interests and attaining a higher level of functioning.

These combined difficulties provide major

obstacles and discouragement to any hopes for substantial change in anyone.

Physicians are constantly called upon and are familiar with the necessity of giving advice and counselling. In doing so, especially in reference to acute problems, such counseling is sometimes helpful to the patient. Nevertheless most physicians would agree that such advice, even when followed, is more often temporary and limited in value than otherwise. It seems clear from general experience and from viewing the great complexity of human personality and its enormous resistance to change, that limited and casual intervention on the part of the physician will seldom lead to enduring changes of a positive nature.

To summarize this section briefly: Probably every individual has deficiencies and inadequacies in his basic patterns of daily living and in the development of his various psychological faculties. Anyone can test this assertion by self-observation. In the presence of such deficiencies, it is inevitable that the individual will suffer a variety of emotional disturbances in his failures to remain whole in the face of the stresses, strains, and deprivations of life. If we could develop the means of helping him to bring his psychological functions and the basic patterns in which they operate to a higher level of strength, flexibility, organization, and adaptability, it should not only make possible a greater degree of effectiveness and satisfaction in living, but it should provide the surest way of relieving him of many of his psychological miseries. To be sure, such a development cannot be conferred by an offhand remark made on the spur of the moment nor by a magic pill, no matter how often and long repeated. An enduring higher level of organization can be attained, if at all, only by way of systematic, comprehensive, hard work on the part of the patient. We know also that almost no individual can achieve a significantly higher level of development by his own unaided efforts. This is too much like lifting himself up by his boot straps. He will need the systematic help of another person until he has obtained adequate direction and sufficient momentum.

Theoretical and Practical Considerations

How are the personality-behavior-living patterns and ego functions, such as they are in the individual, developed in the first place? Can we draw upon any familiar experiences as guides to the development of these patterns and skills? And how are they developed to a higher level of order? Can we detect any basic principles to help us in our task?

Concerning the individual's development, the following can be said. He is born into the world in a relatively undifferentiated state so far as his personality-behavior-living patterns and his psychological functions are concerned. He is completely dependent on those around him; there is evidence to believe he cannot even perceive simple objects in the sense that an adult can observe and recognize them. At birth he has some basic neurological reflexes and a potential for development in various directions to various levels. The direction he does assume will be determined by the important people and experiences of his life; by his reactions to them. The most important people, experiences, reactions, are the earliest ones since they provide the basis for all that follows. The influences and responses that are most intense, repeated, and continuous are likely to be the ones which are most deeply imprinted.

Of course, all experiences and responses will depend not only upon the qualities of these but upon the sequence in which they are introduced to the individual and upon his level of development when he is confronted with experiences of various kinds. For instance when an individual is born, he has the potential of speaking any of the languages used by man. The language he will actually speak and his mastery of it will be largely determined by those around him in his earliest years. The language they speak, the demands they make in relationship to his level of development, etc. will be important variables. Influences later in life, too, may profoundly affect the language he speaks and his level of mastery; but to bring about significant changes from the early patterns predetermined in childhood, the influences must be repeated and continuous, and he

must participate in and respond to them. What pertains to the development of language in the individual also holds true for other personality-behavior-living patterns and skills.

The sum and substance of these considerations is that an individual's psychic structure and skills are developed in accordance with the experiences of his life and his reactions to them. They become assembled as a sort of patchwork predominantly under the guiding influence of the important persons of his childhood. These may be well meaning, but more often than not they are amateur architects so far as the design and construction of psychic structure is concerned. Indeed in psychic structure, the ultimate results are much the same as those we observe when a house is put up by someone inexperienced in design and construction. Structures are off balance, important parts are omitted, unimportant ones are overemphasized, and the whole lacks integration and stability. It is little wonder that we have as much trouble as we do. More to be wondered at is how we do as well as we do.

It is possible for the modern physician to tell his patient what he needs and what he must do if the patient wishes to raise his whole body to the highest level of functioning possible for him. 1) Insofar as possible, diseased parts must be restored. 2) Excesses of all kinds must be modified to what is compatible with optimal functioning. 3) An adequate, well rounded diet will be required. 4) His body should have adequate protection from the elements. 5) He will need at least a moderate amount of exercise to keep all of his muscles strong and responsive, his joints loose and flexible. 6) He requires sleep and relaxation for restoration.

The physician can advise his patient: 1) It isn't sufficient to fulfill any one or several of these requirements, but rather all of them must be met, if optimal overall functioning is desired. 2) Adequacy for any of these requirements cannot be stated as an absolute but must be determined in relationship to the total picture. 3) It isn't sufficient to fulfill any one or all of these needs and activities once or sporadically. On the contrary, all of them must be fulfilled regularly and continuously. 4) In order to fulfill all of these needs and activities, most people will not be able to rely upon their usual routines. Rather they will have to follow a deliberately and carefully planned program for development and maintenance. Otherwise important needs and activities will be neglected, disproportionate attention will be given to others, and there will result deficiencies in balance and organization. 5) If a significant change to a level of higher function is to be made, a certain amount of dislocation and discomfort is inevitable until a new equilibrium is established. 6) No significant change to a level of higher functioning can be brought about instantaneously. On the contrary, both for the sake of thoroughness and to avoid undue strain, progress must be made step by step in accordance with what the patient is able to accomplish in each stage of development. 7) Finally, after a higher level of functioning and health is achieved, the patient must realize that *maintenance activity* will be required if he is to hold on to his gains. Such maintenance activity will be much the same as required for development, but the effort will not have to be quite so great.

We know these prerequisites for bringing a patient to top physical condition. Another requirement is more difficult to meet. A patient may know very well from his physician or from other sources what he should do to enhance his physical being, but more often than not it takes far more than suffering or promise of well-being to induce the patient to abandon or modify his accustomed ways and to take on the arduous, unfamiliar routines essential to achieving a higher level of function. The doctor or some other highly influential person must reinforce the patient's motivation and help push him toward the goal. The doctor is important not only for his technical knowledge and skill but for his ability to win the patient's confidence, will, and cooperation in working toward his goal.

Our major thesis is that what we can do in developing the body into top condition, we

should also be able to do for the individual's psychic structure or ego as reflected by his basic personality-behavior-living patterns and skills. Moreover we should be able to use exactly the same principles, although in somewhat different contexts. We can anticipate some of the same kinds of problems and reactions. But do we have any experience that would justify such suppositions?

Our experience in education confirms the fact that personality-behavior-living patterns and complex psychological skills can be trained to high levels of organization and proficiency. Educational experiences also point up the necessities of gradual, systematic, and thorough programs of development. In learning, too, we encounter the drag of old habits, the difficulties inherent in achieving new and higher levels of development. Thus also, in education, we encounter the automatic resistance of the student, no matter how eager he may otherwise be. In order to be successful, the teacher must be able to inspire, instruct, guide and offer himself as an example to the student. In the course of development, the student will often feel the discomforts of discouragement, failure, clumsiness, confusion, etc. Once he has attained a high degree of knowledge and skill, the student may relax his efforts somewhat, but if he wishes to hold on to his gains, he must work over them continually. Otherwise he will lose them, he will become rusty or flabby.

In brief, then, we are saying that the development of the ego to a higher level of organization and proficiency is a problem essentially the same as that of raising the body to top condition or as the tasks of education and training. Only the areas of emphasis differ. For instance in education, attention is focused quite largely on knowledge and skills referrable to some limited part of the self or to things outside the self. In the usual educational process we assume that the individual has the basic organizations and skills to which we refer. Such an assumption is rarely justified; we simply cannot take such matters for granted. Society can teach and train an individual so that he acquires the complex traits of a physician, a lawyer, an engineer, etc. Our assertion is that we should be able to teach and train him to become a more complete and skillful person in all of the general areas of his life. We should be able to do this despite the previous limitations in his development, provided that we can mobilize his tendencies toward growth and development, and guide them with an adequately designed program pointed in his direction.

The Challenge

To develop a program for training the ego so that it may achieve, insofar as possible, a more nearly optimal level of overall functioning, we are confronted with some really formidable problems and difficulties. We assume that accumulated experience and experimentation will lead to increasingly satisfactory solutions.

1) The number of psychological functions is potentially unlimited. What faculties can we choose for training that would have the greatest influence in raising the whole level of ego functioning?

2) What are the major areas in which these functions must be trained to operate?

3) Once we determine the ego functions and areas on which we wish to concentrate our efforts, we must devise the means by which we can train them and design a progressive training program that will be consistent with our purpose of broad strengthening and organization.

4) Once the patient has signified his desire to work toward the development of greater psychological strength, how can the physician reinforce and guide this determination most effectively?

Selected Ego Functions and Areas of Operation

We shall list here a group of functions that we have chosen to work with and the areas in which they should be especially trained to operate. These functions have been chosen because they are of general importance to any

individual in everything he does. Certainly others might make different selections. We are listing these functions according to significant levels of operation, since functions on different levels may require different training procedures.

FIRST ORDER EGO FUNCTIONS are the most applicable to concrete phenomena:

Perception
Memory
Association, comparison, contrast
Anticipation and imagination

We have exercised first order faculties by having the patient practice using them directly and progressively on simple objects, settings and places, persons, events. Even these faculties are quite complex and their most effective use depends upon having some sort of a systematic approach to them. For instance in perception practice, patients may be trained to observe systematically in accordance with their own senses (How does the object look, taste, sound, and feel?) as well as in terms of the obvious general characteristics of the object. The individual may be taught to look for the unusual, for what has been previously unnoticed, for what is especially interesting. We can only add here that these functions can be taken for granted no less than more complex functions. And these less complex skills have to be mastered before the patient is really prepared to take on and use the more complex ones.

SECOND ORDER EGO FUNCTIONS have to do with basic organizing tendencies and control:

Relaxation
Concentration
Commitment to people, interests, etc.
Disengagement from preoccupations
Toleration for frustration and tension
Delay of definitive action
Thinking things through
Choice and decision
Definitive action

It is more difficult to explain how to exercise these functions. Suffice it to say that with experience one finds frequent opportunities in the training process to talk about them, show the patient how to use them by example, and to urge the patient to practice them himself. For instance, in any such training program, there will be many moments of frustration, disappointment, and tension. When the physician can maintain his own composure during these moments, he has set an example for the patient; the patient's feelings and reactions can be pointed out and discussed. The patient can be urged and encouraged to maintain control over himself and to proceed with the task at hand. Needless to say, example, discussion, and admonitions are most helpful if brought up first with relatively minor stress and strain.

THIRD ORDER EGO FUNCTIONS relate to the broader skills of anticipation, imagination, and planning:

Daily programming
Development of standard operating procedures
Development of systematic approaches to problems, changes, fulfillment of needs, and wishes
Long-term planning
Short-term planning
Development of central interests
Institution of change and variation in routine

These functions can be exercised in concrete discussions and repeated drilling on various levels of planning. In the exercise of these functions, it is always important to emphasize the need for shifting back and forth from the general to the specific and concrete.

FOURTH ORDER EGO FUNCTIONS have to do with executive principles and ideas:

Inner direction (having one's own "self starter," being self-propelled)
Outer focus (having interest and involvement in the world outside one's self)
Push to the future
Problem solving attitudes
Growth and integration

Opportunities arise in connection with work on all faculties and in all situations to present these principles both by precept and by example. The individual can be taught and urged to practice guiding everything he does in terms of these principles.

Areas of Operation

PERSONAL CARE will include intensive discussions and planning to fulfill the individual's requirements for physical care, grooming, exercise, adequate solitude, etc.

INTERPERSONAL RELATIONSHIPS—needs and systematic approaches to casual, close, and intimate relationships, as well as requirements for relationships with superiors, peers, and subordinates can be extensively discussed. The therapeutic relationship itself may be utilized for examination and comparison. Often, one can recognize that a patient has a desperate need for adequate relationships with other people. At such times, it is difficult but important to see through the urgency of these needs that the individual may not have the basic skills and approaches necessary for him to acquire and benefit from such relationships.

WORK. Analysis, training, and planning in this area should include not only the individual's vocation but also his basic chores in living (whether he be alone or in partnership with another), including those having to do with management of his affairs, household chores, etc. As the patient develops plans for change and expansion and as all of these are integrated into his other programs, he should be encouraged and prodded into following his decisions and plans.

RECREATION, both passive and active, is obviously required by every individual for change, to avoid getting stuck, to exercise faculties neglected in the course of his more fixed routine. Recreation can be the vehicle of greater experimentation, freedom, and creativity in life. Like everything else an individual does, allotments of time and energy must be predetermined or this area of his life will be neglected with consequent and unnecessary constriction of his mind and body.

A Tentative Program

With each successive patient and experience, further ideas and refinements have developed. By no means have we arrived at a standardized program which can be recommended for more general use. We can only outline here in a rough way the program which we use at present.

1) *Orientation.* A careful survey is made of the patient's complaints, history, and way of life. He is then fully informed of the objectives of the program and offered a choice of pursuing it or not.

2) *Instruction and training* in first order functions as they pertain to objects, settings, persons, and events.

3) *Instruction and training* in third order functions in reference to personal care, interpersonal relationships, work, and play.

4) *Actual daily programming, long- and short-term planning.*

5) In all stages of the program possibilities of control and discharge, guiding ideals and principles (second and fourth order functions) are discussed and applied whenever possible.

6) Whenever the patient brings up problems, these are carefully worked over *with emphasis on skills and approaches which the patient may use to solve these problems in a way compatible with the integrity and stability of his total personality rather than on the content of the particular problems.*

7) As the patient develops skills and plans consistent with a well organized and stable over-all long term personality-behavior-living patterns, he is encouraged and urged to put these into practice and to go on his own.

Functions of the Physician

It must be quite obvious by now that in such a program as described here, the physician has a number of important tasks to perform.

1) He must acquaint himself thoroughly with the patient and he must make sure that the patient understands the objectives of the treatment.

2) He has the job of providing information and instruction to the patient.

3) He must be able to reinforce the patient's motivation.

4) He should be able to provide the patient with a personal example of the skills and or-

ganization which he is trying to impart to the patient.

5) He should be able to provide the patient with an opportunity to test his skills and patterns as they develop.

Summary of Observations With Respect to the Program

1) Any function, any complicated skill can be developed further, provided there are the proper incentive, adequate instruction, example, and practice.

2) The development of any new skill or new program will inevitably be associated with difficulties from two sides. There will be the difficulty inherent in bringing about a new synthesis. There will be the drag of old habits and routines.

3) With any significant change from what one has been accustomed to, there will be signs of dislocation and the pain of establishing a new order of things. These will be manifest in anxiety, confusion, discouragement, loss of interest, feeling of helplessness, etc. If one attempts to bring about significant changes in himself, he may as well resign himself to passing through a negative phase when it all seems hardly worthwhile. He must be on guard against the most powerful and convincing rationalizations that this isn't what he wanted to do in the first place.

5) It is not easy to make a significant change of any sort. It is somewhat comparable to changing the posture. It can be done, but it needs tremendous drive or motivation to do so, know-how, and extremely hard work.

6) The pain and difficulty of change may be somewhat minimized, if great care is taken to bring about the change step-by-step, making sure that each phase is adequately mastered before going on to the next. A difficulty that many people have when they attempt to do something different is that they unwittingly skip intermediate steps and start off on a level that is too far beyond them. This is fully comparable to starting a physical education program with the heaviest weights. Harm may be done. At the very least, disappointment and discouragement are inevitable.

7) If a person has a psychological problem of any sort, it is not likely that any limited consideration or intervention, any narrow effort is going to handle it in a satisfactory manner. This can be appreciated by taking into consideration the many complex functions that make up an individual's behavior and personality. It is always unlikely that just one thing will be the matter. If one thing is out of whack, the probability is that other areas will also be in various states of dysfunction.

8) No high level of development an individual achieves will automatically remain ever after. To keep his gains he must always actively maintain them.

Results Thus Far

We have attempted to apply the foregoing principles of training and programming to a series of about forty patients for periods of one month to more than one year. The patients have ranged from those who were borderline psychotics, helpless in the management of their own affairs, to patients with neuroses and character disorders but otherwise highly competent and self-sufficient. We cannot claim any outstanding dramatic results. However, it can be conservatively said that we have been able to develop therapeutic relationships and results quite comparable to those we have achieved with other therapeutic approaches of comparable duration. There is promise to this approach. But first it needs to be more fully developed, and one has to acquire skill in using it.

Summary

Inadequate development of basic personality-behavior-living patterns and psychological skills must account for many of the emotional illnesses and disturbances seen by the physician. With proper step-by-step education and training it should be possible to bring an individual's

ego and its functions to a higher level of strength, flexibility, and organization. To the extent that this objective can be accomplished there should be not only an increase in the capacity for effectiveness and gratification but also a diminution in the individual's psychological misery and suffering. A tentative program for ego strengthening is outlined. It is crude and rudimentary, but seems to offer some promise.

2305 Van Ness Avenue

MUSCLE PAINS FOLLOW ADMINISTRATION OF SUXAMETHONIUM

The administration of suxamethonium bromide instead of suxamethonium chloride has no effect on the incidence of postoperative muscle pains in a group of out-patients.

The intravenous injection of atropine and neostigmine at the end of the bronchoscopy has no effect on the incidence of muscle pains.

Gallamine triethiodide administered intravenously beforehand in a dose of 20 mg. lowers the incidence and severity of the pains but is liable—particularly in patients for bronchoscopy—to cause respiratory difficulties at the termination of the bronchoscopy.

After the administration of suxamethonium chloride to in-patients, nearly a quarter suffer from postoperative muscle pains, the incidence being less at the extremes of age and after certain operations.

Every time suxamethonium is used consideration must be given to the indications for its use and the incidence of muscle pains afterwards, and we must all hope that the chemists will produce a new relaxant with the advantages of suxamethonium but without its capacity for producing these pains.

C. A. FOSTER, M.B., B.S.

Brit. Med. J. (1960), No. 5191, Pp. 24-25.

EDITORIALS

PERRIN H. LONG, M.D.

THE COSTS OF "ELDER-MEDICARE"

The indications at present are that if Congress does not pass the Administration's Bill to provide for medical care, hospitalization, etc., for all people past sixty-five years of age, late in the present session, it will be passed in the next session in 1962. Why? Because our increasingly welfare-minded electorate wants the benefits which the Anderson-King bill currently promises to the older citizens.

A recent Gallup Poll (*NEW YORK HERALD TRIBUNE*, June 9, 1961) which covered a carefully selected sample of age groups 21-29, 30-49, and 50 and over, on the question, *"would you favor or oppose having the social security tax increased in order to pay for old age medical insurance,"* showed that *but one out of four people* opposed such an increase, *while two out of three* were in favor of increasing the social security tax to pay for old age medical insurance. This result, we believe, indicates clearly the effects of more than twenty-five years of schooling the American Public in dependence on social security, unemployment insurance, prepaid health care and the like. This outlook fosters investment in governmental welfare schemes, and tends to minimize the necessity for individual savings to support one in his old age, or in times of need. There can be little doubting but that the trend towards the welfare state and Federal Governmental control will be greatly accelerated by the zealots on the "New Frontier." Government's hands will go deeper and deeper into our pockets until your dollar and ours won't be worth yesterday's nickel.

Now just what is the Administration's plan for Old Age Medicare? Its principal provisions are these:

1. THOSE ELIGIBLE: Everyone over sixty-five years of age who is eligible for Social Security, or Railroad Retirement benefits. It

is estimated that in the first full year of operation (1963) 14,200,000 Americans would be eligible.

2. FINANCINGS By increasing Social Security taxes ¼ of 1 per cent on January 1, 1963, and by increasing the ceiling on wages covered by the tax from $4800 to $5000. Under current laws, the tax is 3 per cent but is scheduled to rise to 3½ per cent in 1963 and to 4 per cent in 1966. It is said that the proposed raise will produce $1,500,000,000 with which to finance the Administration's proposal.

3. BENEFITS: Four types of medical care benefits are covered in the proposal.

a. In-patient hospital service up to ninety consecutive days in any year. The patient would be required to pay $10 a day for the first nine days, or a minimum of $20 for a short stay.

b. Nursing home service for a maximum of 180 days in any year. Consecutive hospital and nursing home service is permitted.

c. Out-patient diagnostic service at all hospital clinics with coverage for all costs exceeding $20.

d. Community visiting nurse service in the patient's home for a maximum of 240 visits in any year. Payment would be made from a special fund set up under Social Security and administered by HEW. Payments would be made directly to agencies and hospitals, not to the individual patient. The question is, will this fund be adequate?

Initially, when this Bill was proposed, little was said about its cost. It is interesting to look at the background of its financing. First it was proposed that the Social Security payroll tax be increased by one billion, five hundred million dollars per year. This of course was the planners' best guess, made essentially on the spur of the moment. However, as an editorial in the *WALL STREET JOURNAL* (May 29, 1961) points out, ever since "the planners have been second-guessing themselves . . . with revealing results." Take the cost of nursing home care for example. An increase in the cost of the total program of nine per cent may be needed to finance this part of the program. (Actually, the planners figure from twenty-five to two hundred twenty-five millions of dollars will be spent the first year on nursing home care, with at least one hundred million being considered the probable figure.) And mind you, this is but a "medium-sized promise" on the part of the administration out of a number of promises large and small contained in the Bill, and at the start of the program. Furthermore, when the guess work runs from twenty-five millions to two hundred and twenty-five millions, of dollars, it's pretty frightening because who knows (maybe one should say of the planners "who cares") what the program will cost?

Ever since Bismarck got through the "Kranken Kasse" bill, in Germany, in 1888, to save his regime and to defeat the Socialists, each country which has embarked on governmental medical care plans has erred greatly in its forecasts of the costs of its particular plan. Great Britain is paying out three times as much for medical care as the planners of the National Health Service predicted it would cost, and still Labour in Britain complains bitterly of the current inadequacies of the Service.

Even in our own country, the two going ventures in "Elder-Medicare" have run into serious financial difficulties. The State of Colorado, as recently reported in the *WALL STREET JOURNAL*, June 9, 1961, has had a major old-age program since 1936. At that time all persons over sixty years of age, who were "needy" became entitled to a pension of $108 per month. A "needy person" was defined as one having (in addition to a home) property worth not more than one thousand dollars, while the spouse's property could not exceed two thousand dollars. Also to qualify as a "needy person" at sixty, one had to have been a resident of Colorado for thirty-five years. If over sixty-five, to qualify, the "needy person" had to have lived in the state for five of the last nine years.

In 1956 in a referendum, the voters approved an "elder-care" medical program which covered all people drawing state pensions as

"needy persons." The voters, in approving this program, authorized a budget not to exceed ten million dollars to finance the program for the *fifty-two thousand pensioners* who were eligible for medical care. This is budgeting approximately one hundred and ninety-two dollars per annum per pensioner. In 1956, the voters and legislators interested in the program expected it would be many years before the costs of the scheme would reach ten million dollars. How rapidly these individuals were proved to be wrong in their estimates. The first full year of operations cost *six and one-half million dollars,* The second *eight million, one hundred and fifty-one thousand dollars,* while in the third year costs rose to *ten million, two hundred and forty-six thousand dollars,* and the plan is in the red. However, the Welfare Board, by postponing certain payments until the current fiscal year, avoided a deficit.

However, early in 1961, when it appeared that a deficit of one million, four hundred thousand dollars was a possibility, the Welfare Board began to curtail benefits under its Elder-Care program. Steps were taken to keep the old people out of hospitals except in emergent situations, free ambulance service was abolished, maximal hospitalization was reduced from twenty-one to eighteen days, and nursing home service on a limited basis will be provided only to the most feeble of the aged. Even with these curtailments of service, it is believed that a deficit of six hundred thousand dollars will develop in the cost of the program in the current fiscal year.

Now what happened? To begin with, hospitals costs went up an average of eight per cent per year. Then, as the Chairman of the State Welfare Board is quoted as saying in the *WALL STREET JOURNAL,* "Too many pensioners with colds and hernias decided it was time to go to the hospital. It wasn't long before we reached the bottom of the barrel." In other words, overutilization was a prime factor in hurting the Colorado program. Of course, as in any program of this type, abuses developed. A nursing home was found falsifying reports. Lonely old ladies showed up in hospital to enjoy the food, attention and company. Children dumped their old parents into hospitals and nursing homes when they tired of being sitters for them. It was reported that "many physicians were being far too easy in determining whether patients should go to hospital or not." To cope with this, the state ordered hospitals to establish admission committees comprised of three staff physicians to rule on the admission of all pensioners applying for entry into hospital. Of course, the doctors don't like this and, while medical societies have pledged their support to the Welfare Board's efforts, a lot of doctors are holding back. They don't like to have their diagnoses checked. They don't like the cutback in hospital services without providing for more office and home care, and as one doctor is reported as saying, "What the state has done is put us in the position of having to ignore many patients, notably those who are sick enough to use up their two visits per quarter, but not sick enough to go to hospital." On the other hand, the President of the State Society, Dr. Vetalis V. Anderson, is reported to have "accused healthy pensioners of 'shopping around' until they found a doctor willing to put them into hospital." Any way one looks at a developing situation such as this, it is clear that patient care will be affected, while at the same time patient-doctor relations are being disturbed, and the position of the physician in his community and in the public eye is being damaged.

Colorado is not unique in having this experience. Recently, New Mexico has reduced its benefits under its Elder-Care program to a "life-endangered-only" basis. The state had to do something. The budget was being rapidly exceeded. Furthermore, programs which are about to be initiated in North Dakota and Tennessee are being tightened up from every angle in hopes that they may be kept within budgetary limits. Recently (*WALL STREET JOURNAL,* June, 20, 1961), the Executive Director of the Washington State Hospital Association has written, "Of every dollar being spent for health care of those over 65, the state of

Washington pays 60 cents to nursing homes, 24 cents to hospitals., 11 cents to physicians and 5 cents to druggists. . . . While general hospital costs to the state for welfare patients have increased only 13% in the last five years, nursing home costs have soared 30%. The fallacy of rapidly transferring hospital patients to nursing homes to save money is being demonstrated. Skilled teams (medical) . . . are not being given an adequate chance to show what they can do to rehabilitate elderly 'strokes' and other disabled patients in the aged group . . . the patients vegetate through long years of gradual decline . . . 'medicated survival' is not the answer to health care of the aged."

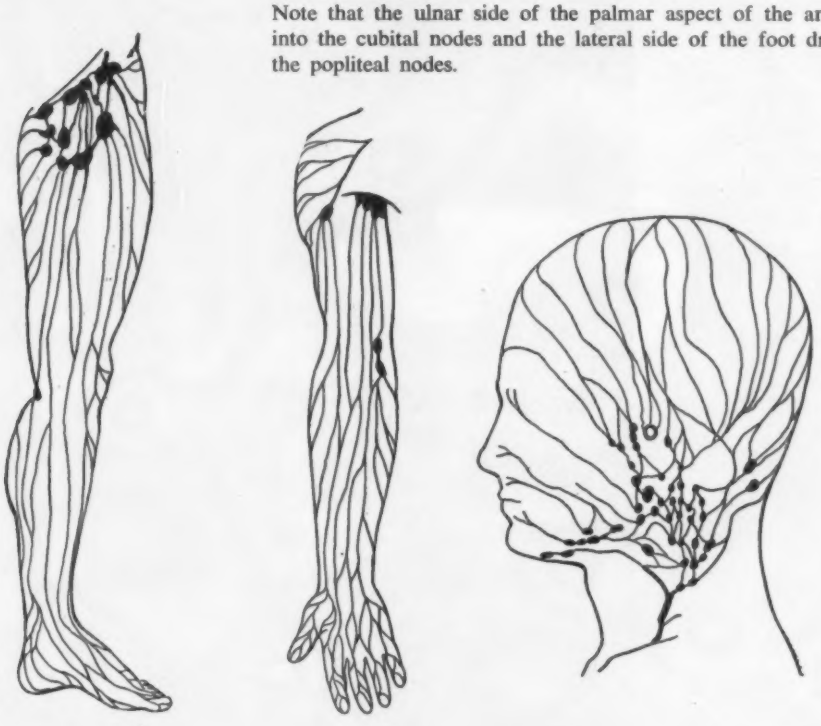
We have already asked the question, will the proposed financing be adequate. *Our answer will be a flat NO!* Based on the Colorado experience, here is what soon will be happening. Colorado budgeted $192 per pensioner for "Elder Medicare." It is estimated that there are 14,200,000 individuals who would be eligible for Federal "Elder Medicare." Using the Colorado formula, in three years the proposed scheme will require a budget of *two and three-quarter billions of dollars* to keep out of the red! Almost a hundred per cent more than is being talked about now! Up will go the Social Security taxes another quarter of a per cent, and the American People will once again have been hornswoggled by their so-called leaders!

No wonder the *WALL STREET JOURNAL* says in concluding its editorial, "It's one thing to try to help the relatively few old people who are really needy. It's quite another to compel all people to pay incalculable costs for this unhealthy Federal medicine."

CLINI-CLIPPING

LYMPH VESSELS AND LYMPH NODES OF THE MOST COMMON SITES OF LYMPHANGITIS.

Note that the ulnar side of the palmar aspect of the arm drains into the cubital nodes and the lateral side of the foot drains into the popliteal nodes.



Remember When... ?

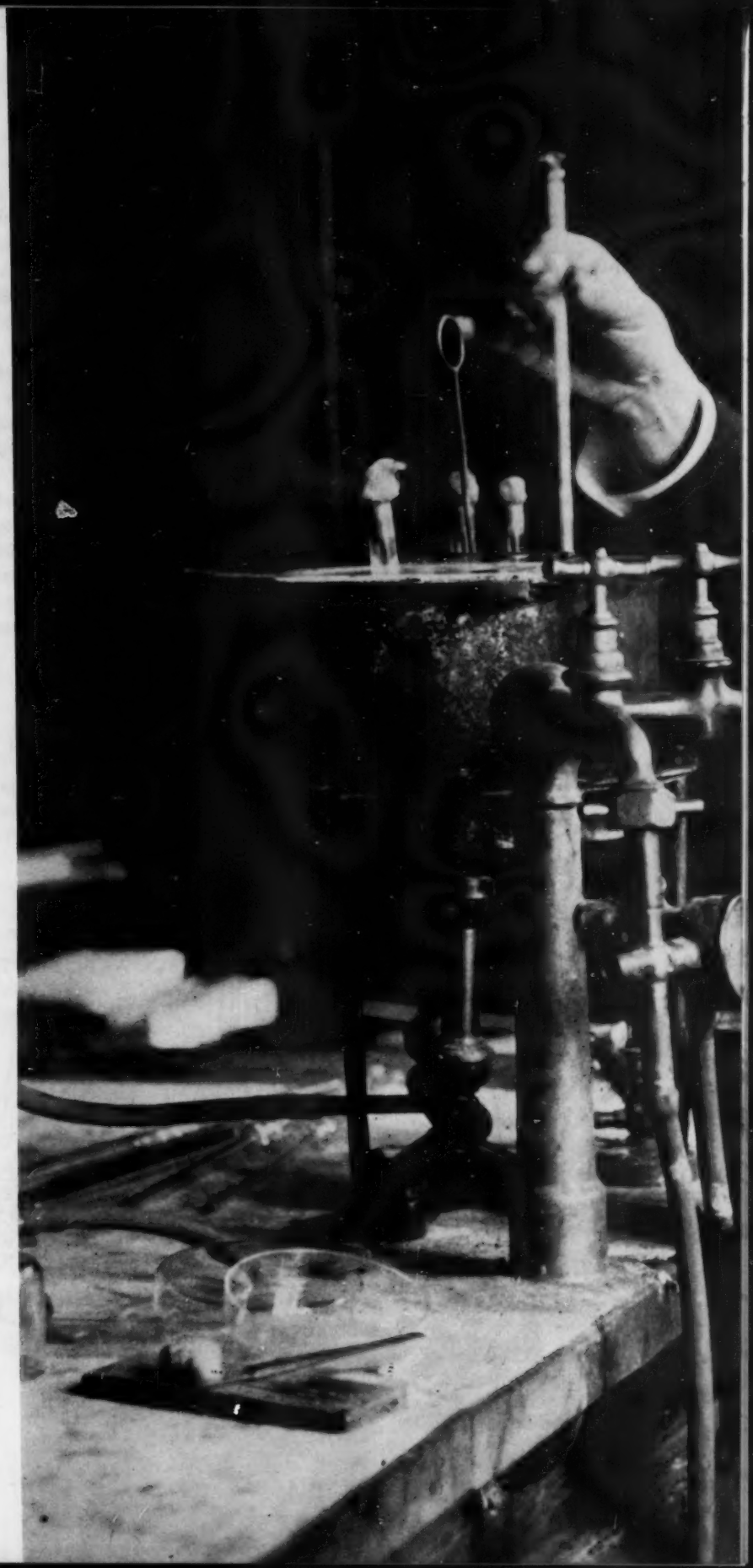
Remember when (which few of us will) Paul Ehrlich (1854-1915) stalked through the scientific fields of medicine with giant strides?

. . . Ehrlich reported on the following?

1. Triacid stains (1875)
2. Discovery of mast cells (1877)
3. The differentiation of neutrophiles, eosinophiles and basophiles (1877-80)
4. Diazo reaction (1882)
5. Vital staining (1886)
6. Arsphenamine (1910)
7. Neo-arsphenamine (1912)

. . . In addition to all of these, he discovered Ehrlich's Tumor, developed Ehrlich's Theory of Immunity, tested many dyes in the therapy of protozoan diseases and became known as the father of chemo-therapy?

Photo: The Bettman Archive, New York City



THE LONG AND SHORT OF IT

From Your Editor's Travels and Reading

THE ATLANTIC CITY MEETINGS

The Atlantic City meetings were held on April 30 and May 1, 2, and 3 this year. As has been happening year after year since "travel money" has become a standard pattern in all grants-in-aid, etc. (only the medical scientists in the military services seem to be restricted on "travel money"), the attendance was larger than ever before, and sitting space in the Derbyshire Room, or in the Surf and Sand, was harder to get in the evenings. There is no such thing as "Let's go and have a drink and talk things over" any more at these meetings. Just too noisy, too many people! The exhibits of scientific instruments were more fascinating and when one inquired the price of certain of the instruments, one found them more horrendous this year. Fifteen to twenty thousand dollars for a single instrument! The taxpayer is digging deep in his pocket to get an analysis of his amino acids. After looking at and pricing some of the instruments concerning which your Editor knew little or nothing, he ambled over to the Coca Cola booth and said to the male attendant (no gals in low cut gowns dispensing "cokes" at these meetings), "My God! I am glad at last to find something which I understand," as I picked up my "coke." "Wet out, isn't it?" was his reply.

In addition to the big three programs (Federation for Clinical Research, American Society for Clinical Investigation, Association of American Physicians) more and more groups are holding annual or other meetings at Atlantic City at this time. One of the largest is the one, the members of which are interested in psychosomatic medicine (a rather odd term when one comes to think of it). Then there are Committees, Editorial Boards, Study Sections, Clubs, Dinners, "Evenings" and Heaven knows what other gatherings of the faithful take place this first weekend in May in New Jersey's premier Spa.

Now where did the papers presented at the three major meetings come from? To begin with, *seventy-six* came from Boston, while *fifty-nine* were submitted from New York City. This business of the output by the Boston investigators from Harvard, Boston University and Tufts Medical Schools is phenomenal and really pulls one up a bit short. Everyone should put on his thinking-cap and say, "Well, what have they got?" If one excepts the Northeastern and Mid-Western areas, then from Boston alone came more papers than from the middle Atlantic, Southeastern, Southern, Mountain, or West Coast areas. Certainly the ferment is in Boston. It is also interesting in this respect to note that in 1960 *fifty-six percent* of the papers submitted to THE JOURNAL OF CLINICAL INVESTIGATION were from the East, *twenty percent* from the central part

of our country, *twelve percent* from the Western area of our country, while the other *twelve percent* were from foreign sources. If a moral be drawn from all of this, it would have to be "Go East, young man, Go East (and especially to Boston) if you are interested in the medical sciences."

The meeting of the American Federation for Clinical Research was a three-ring circus. At the Sunday morning session, thirteen papers were presented. During Sunday afternoon and evening, twelve sectional meetings were held and some ninety-four papers were read. This makes a total for the day of one hundred and seven scientific papers, certainly enough to give anyone a real bout of intellectual indigestion. Of course no one could hear all of the papers but many of the faithful sat through twenty-eight papers. From nine A.M. to (in some instances) midnight! How were the papers? None were world-shaking but all showed evidence of good hard work in the laboratory or by the bedside. The following are some which interested your Editor.

Drs. H. D. CAIN, W. G. FRASHER and R. STIVELMAN, of the College of Medical Evangelists, in Los Angeles, presented data on a "GRADED ACTIVITY PROGRAM" designed to provide a safe schedule of supervised self-care activities for the management of patients having recent myocardial infarction. On the fifteenth, or later post-infarction day, patients who are making an uneventful recovery are placed in the program, which consists of ten daily (and successive) Activity Levels. For example, Level I is nothing but self-care activities, such as washing, eating and moving to the commode. At day and Level V, walking activities; the subject walks two hundred feet on level ground. The program is monitored before and after each level of activity by observing the patient and by the EKG (one standard precordial lead used). An "activity" is repeated with EKG monitoring, if an apical rhythm is noted, or there is a rise in the rate of twenty beats, or more, or angina, dyspnoea, or fatigue occurs, or a significant ST segment shift is found. If a significant abnormality occurred, activity was generally maintained for a week at the previous Level before retesting. The authors consider that EKG monitoring is more reliable than that of checking symptoms or signs. One-half the patients pass the ten levels without repeating, one quarter must repeat, and one quarter fail.

Another paper by Drs. R. GILBERT, J. H. AUCHINCLOSS, JR., E. EICH, H. SMULVAN and J. KEIGHLEY, of the Upstate Medical Center, Syracuse, N. Y., dealt with "EXERCISE PERFORMANCE BEFORE AND AFTER CONVERSION FROM ATRIAL TO SINUS RHYTHM." Eight test subjects were employed and they clearly demonstrated that the conversion of the rhythm from that of auricular fibrillation to a sinus rhythm is followed by a definite improvement in exercise performance. The most striking changes occurred in the heart rate and stroke volume.

Drs. EUGENE V. BARNETT, GERALD D. STONE, SCOTT N. SWISHER and JOHN H. VAUGHAN, of the University of Rochester School of Medicine and Dentistry, Rochester, N. Y., reported a patient who, following the injection of tetanus antitoxin, developed typical serum sickness, except that on study of her peripheral blood, thirty percent plasma cells were noted in the differential white blood cell count. This finding naturally made the authors wonder whether she had multiple myeloma. However, studies of the bone marrow showed no evidence of myeloma and the patient recovered from the serum sickness without any trouble. Three months later, she was purposely skin tested with horse globulin, following which she developed a very large edematous local lesion and the plasmocytosis reappeared in her peripheral blood. After several days, the plasmocytes disappeared and now, five months later, the patient is in good health.

Drs. ALVIN R. FEINSTEIN and JUANITA ZAGALA, of Irvington House, Irvington-on-the-Hudson, concluded studies designed to throw light on "THE PATTERN OF SYMPTOMS, THE PRE-TREATMENT INTERVAL AND THE PROGNOSIS OF

RHEUMATIC FEVER" in two hundred and forty-seven consecutive children and adolescents who had rheumatic fever. They concluded that, although early treatment seemed beneficial, the good results obtained in certain of their subjects are often not due to treatment but rather to the absence of carditis in patients whose severe arthritis gets them to the doctor and treatment promptly. Recurrent attacks of the disease occurred in subjects who had rheumatic heart disease and of course this group comes to treatment earlier than subjects having their initial attack of rheumatic fever. The authors point out that "the data indicate that RF, clinically as well as pathologically, is more likely to bite the heart when it spares or merely licks the joints" and vice versa. In another paper from Irvington House, Drs. MARIO SPAGNUOLO and A. R. FEINSTEIN reported their studies on "RHEUMATIC ACTIVITY (RA) AND CONGESTIVE HEART FAILURE (CHF) IN YOUNG PATIENTS WITH RHEUMATIC HEART DISEASE." They began by pointing out that traditionally it is believed that congestive heart failure in patients with rheumatic heart disease is produced by rheumatic activity. However, their data derived from thirty-two patients aged two to eighteen years, who had rheumatic heart disease, and who experienced seventy episodes of congestive heart failure during the period of study, showed that if rheumatic activity (as measured by the ESR) is present, congestive heart failure will *not* lower an inflammatorily-elevated ESR. Furthermore, "congestive heart failure can occur without RA in young patients as well as adults. The absence of RA can be suspected clinically and confirmed by a normal ESR, or CPR."

In an interesting paper from The Johns Hopkins Hospital, Dr. FRANK L. IBER discussed the use of Dianabol® (Methandrostenolone) to relieve itching in twenty-two patients suffering from obstructive jaundice. The double-blind technique was employed, and a dose of 5 mgms. per day was given. Twenty out of twenty-two patients had relief from itching within two to four days but, when the drug was discontinued, the itching returned in one to three days. The action of this drug in pruritus therefore seems to be similar to that of methyltestosterone, or norethandrolone.

Drs. P. E. PERELLIE, J. P. NOLON and S. C. FINCH, of the Yale University School of Medicine, made an excellent report on "THE LOCAL EXUDATIVE CELLULAR RESPONSE IN UNCONTROLLED DIABETES." Forty-five observations were made upon thirty subjects, ten of whom were normal subjects, ten who had well-controlled diabetes, six who were suffering from uncontrolled diabetes with acidosis and ketosis, and four non-diabetic patients who had uremia and acidosis. Four of the six uncontrolled diabetics were re-examined after their diabetes had been controlled. The authors report that "The results showed that the early granulocyte phase of the local cellular response was significantly delayed and diminished in all patients with acidosis in comparison with the normals and non-acidotic patients. Re-examination of the poorly-controlled diabetic group after acidosis and ketosis had cleared resulted in completely normal cellular responses. In addition, significant amounts of ketone bodies were demonstrated locally in all uncontrolled diabetics." The authors concluded "that acidosis impairs the granulocyte phase of the local exudative cellular response, which increases the susceptibility of uncontrolled diabetics to infection." To the best of your Editor's recollection, this is the first time objective data on *why* uncontrolled diabetics are more prone to infection has been presented.

A paper by Drs. V. T. ANDRIOLE, N. H. BELL and S. M. SABESIN, of The National Institutes of Health, Bethesda, Md., "ON THE NEPHROTOXICITY OF AMPHOTERICIN B IN MAN" indicated that "Amphotericin B regularly produces nitrogen retention in man." This probably occurs because of an action of Amphotericin B in "decreasing renal blood flow and glomerular filtration rate."

"A STUDY OF DIARRHEA DUE TO SHIGELLA AND SALMONELLA ORGAN-

ISMS" was presented by Dr. H. D. CAIN, of the Los Angeles County Communicable Disease Hospital. It was based on studies made in fifty-one families in which more than one individual had come down with a bacteriologically-proved specific diarrhoea. Double-blind studies on treatment were carried out using a simple kaolin-pectin suspension, or a mixture of furazolidone in kaolin-pectin suspension for therapeutic purposes. Anorexia, malaise, and toxicity lasted half as long in those patients who had shigella infections, and who received the furazolidone mixture. When patients suffering from salmonella infections were treated with furazolidone, fever and diarrhoea disappeared in one-third of the time required to get the same results in patients receiving the kaolin-pectin mixture. The question was raised as to whether furazolidone should not be used prophylactically in direct contacts of such patients.

Dr. ALVIN N. KATZ, of Beth Israel Hospital, Boston, Mass., took up the very important subject of "PYELONEPHRITIS OF PREGNANCY IN BACTERIURIC AND NON-BACTERIURIC WOMEN." His studies showed that many instances of pyelonephritis occur in women who do not have bacteriuria early in pregnancy. "However, pregnant women with asymptomatic bacteriuria, in contrast to non-bacteriuric women, have a significantly greater risk of developing acute pyelonephritis." Furthermore, "many pregnant women with asymptomatic bacteriuria have impaired urinary concentrating ability." These women "are more likely to develop acute pyelonephritis than pregnant women with bacteriuria and normal concentrating ability.

Another paper dealing with bacteriuria was presented by Drs. THOMAS W. MOU, ROBERT SIROTY and PAUL VENTRY, of the Upstate Medical Center, Syracuse, N. Y. They reported on the "EPIDEMIOLOGY OF BACTERIURIA AMONG ELDERLY, CHRONICALLY ILL PATIENTS." Seventy-four aged chronically ill patients, men and women were studied. "Of two hundred specimens from men and one hundred and ninety-four from women, thirty-two percent and seventy percent, respectively were found to have in excess of 100,000 bacteria/ml. Aerobacter strains were present in about one-third of the female specimens while Pseudomonas occurred in fifty-eight percent of the males." No evidence of spread from patient to patient, or via nursing personnel, or instrumentation was obtained.

Drs. DONALD T. VARGA and ARTHUR WHITE, of the University of Louisville Medical School, reported that they treated both light and heavy nasal carriers of staphylococci by instilling intranasally dimethoxyphenyl penicillin. *The staphylococci were rapidly eradicated.* If this can be repeated this will be an important observation.

An interesting report on the "HYPERGLYCEMIC EFFECT OF CHLOROTHIAZIDE" based on work done by Drs. ROBERT L. HAUMAN and JOHN M. WELLER emanated from the University of Michigan Medical School, in Ann Arbor. The two investigators studied patients who had been receiving chlorothiazide for no less than six months. First, the patients were placed on a standard three day glucose tolerance preparatory diet. On the fourth day, a three-hour oral glucose tolerance test was done. Then chlorothiazide was stopped and, one week later, the glucose tolerance test was repeated. Then patients were studied. It was found that glucose tolerance curves show higher values when patients were receiving chlorothiazide. However, as the fasting blood glucose levels were normal, one can say that chlorothiazide has little effect on the blood sugar.

Another interesting paper was that which dealt with "THE INCIDENCE OF HEREDITARY HYPERPARATHYROIDISM." It was presented by Drs. C. E. JACKSON, R. P. YODERS and H. D. CAYLOR, of the CAYLOR-NICKEL CLINIC, Bluffton, Ind. They reported that heredity may play a more important etiological role in hyperparathyroidism than is generally recognized. They have encountered four unrelated families which suffered from parathyroid adenomas. In the first family

nine members were affected. In the second family the father and a son had adenomas. In a third family, a woman and a great nephew had adenomas. In the fourth family, all four living members have had adenomas removed. It is probable that hyperparathyroidism as a familial trait is more common than is realized. Certainly when a patient is seen who has this disease, other members of the family should have their blood calcium estimated.

In another report on a familial occurrence of a disease, Drs. S. E. TISHERMAN, F. J. GREGG and T. S. DANOWSKI, from the University of Pittsburgh School of Medicine, discussed the occurrence of *nine* pheochromocytomas in eight individuals, in four generations of three of eleven branches of a single family in which two hundred and eight members have been studied. Twenty-four individuals having hypertension have been found to date in this family. Also twenty people had the forme fruste of neurofibromatosis, two individuals had large hemangiomas, and two had von Hippel's disease (angiomatosis of the retina). Finally, an association between pheochromocytoma and renal artery stenosis was established. But three branches of this family have been studied so far. The study of the remaining eight branches will be awaited with the greatest of interest.

A careful "FOLLOW-UP STUDY OF MEDICALLY TREATED LUNG ABSCESS" was presented by Drs. CHARLES L. HERRING, THOMAS B. BARNETT and WILLIAM H. SPRUNT, of the University of North Carolina School of Medicine, at Chapel Hill. They studied fifty-four patients who had had an adequate trial of medical treatment for pyogenic lung abscess. Forty-one were classed as having made a satisfactory clinical and roentgenological response. "Twelve of the thirteen patients requiring surgical treatment had symptoms for more than three months before the institution of adequate medical therapy. Treatment consisted of at least three weeks of antibiotic therapy, usually including penicillin and either tetracycline, or chloramphenicol. . . . Insofar as the cases studied reflect the results of medical treatment in the entire group, these findings indicate that early diagnosis and adequate medical therapy practically eliminate the need for surgical treatment of lung abscess."

Drs. W. SHAPIRO, C. JOHNSTON and J. L. PATTERSON, JR. reported interesting results obtained in a study entitled "SMOKING, ATHLETIC CONDITIONING AND VENTILATORY MECHANICS." They found "that muscular development increases the effectiveness of the chest and diaphragm as a bellows system and that habitual smoking produces a mild airway obstruction."

A paper which interested your Editor very much was that entitled "THE RARITY OF POST-STREPTOCOCCAL GLOMERULAR NEPHRITIS CAUSING NEPHROTIC SYNDROME," by Drs. J. R. LAWRENCE, C. PIBANI, R. KARK and V. POLLAK, of the University of Illinois Medical School, Chicago, Ill. These investigators studied renal biopsies from eighty-seven patients suffering from the nephrotic syndrome. In but twelve were lesions (proliferative and exudative lesions with axial lobular stalk hyperplasia), characteristic of post-streptococcal glomerular nephritis found. Clinical data, adequate to make a diagnosis of post-streptococcal glomerular nephritis was present in sixty-five of the patients studied. These observers concluded therefore that the nephrotic syndrome was rare in post-streptococcal glomerular nephritis. From 1929 until 1940, when your Editor was in the Department of Medicine, Johns Hopkins Medical School, he had an opportunity to observe most of the patients ill with glomerular nephritis (subacute and chronic) who were being studied and followed by Dr. Warfield T. Longcope. While his memory may be faulty, it would be his opinion that in those years, nephrotic episodes occurred more frequently—say in more than one-half of the patients under study by Dr. Longcope. It was not uncommon to see patients have one or more nephrotic episodes and then succumb of uremia when not "nephrotic." As this series is based on patients having the nephrotic syndrome and not glome-

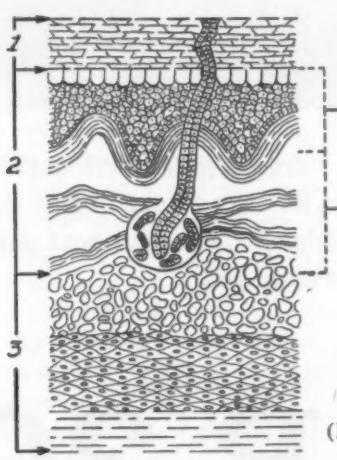
rular nephritis, one may wonder whether the conclusions conform with the natural history of unhealed post-streptococcal glomerular nephritis.

A useful paper to practicing physicians was that presented by Drs. H. STEIN, S. MOUTOS, and A. P. SHAPIRO, of the University of Pittsburgh Medical School, which was entitled "USE OF CATALASE TEST TO DETECT RENAL INFECTION IN HYPERTENSION." They pointed out that "Whether pyelonephritis is a cause of hypertension or, as suggested by animal studies, the hypertensive patient is more susceptible to infection, it is nevertheless a serious complication of hypertensive nephropathy." They decided that a simple test which could be used for determining the presence or absence of renal infection would be very useful. They concluded that the catalase test (flotation in H_2O_2 of a disc saturated in urine) which was described by Braude, *J. Lab. Clin. Med.,* 1961) would fit their bill. Accordingly, tests were done to determine whether there was anything in the urine of patients ill with hypertension and who had renal damage, which might give a positive test. It was found that only in urines of patients from which bacteria could be cultured, or of patients who gave a recent history of pyelonephritis was the test positive. These investigators stated that the "results suggest that in screening hypertensive patients the catalase test can distinguish infection from hypertensive nephrosclerosis, and may possibly detect persistent inflammation when urine is sterile." (That is cultures of the urine show no growth.)

Drs. J. STRAUSS and G. G. NAHAS, of the Departments of Pediatrics and Anesthesiology, Columbia-Presbyterian Medical Center, New York City, submitted some very interesting work on the "MECHANISMS OF ACTION OF TRIS (HYDROXY-METHYL) AMINO METHANE (THAM) IN THE TREATMENT OF SALICYLATE INTOXICATION." As salicylate poisoning is one of the most frequent causes of poisoning deaths in small children, anything new in this field is very important. In experiments in rats which had been poisoned with LD_{50} doses of salicylates, treatment by the intraperitoneal injection of THAM (5 ml. of .06 M) increased the survival rate to ninety-two percent. No data was given relative to the possible use of this compound in human beings.

(To be continued next month.)

CLINI-CLIPPING



Burn Classifications

1-First degree burn

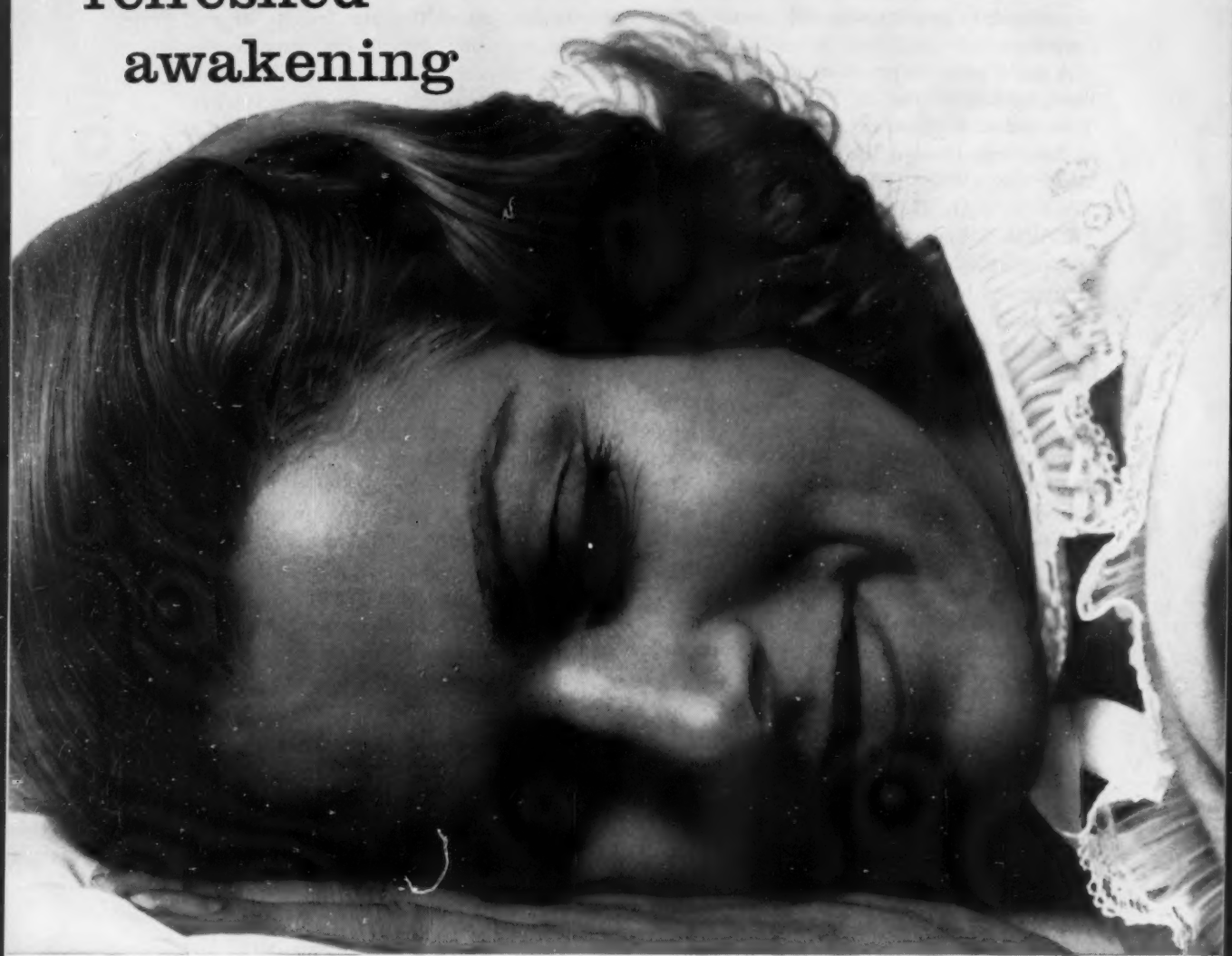
2a-Second degree burn (Superficial)

2b-Second degree burn (deep)

3-Third degree burn

(Modified from Matthews "Surgery of Repair.")

restful sleep, refreshed awakening



This is the promise of Noludar 300... a night of deep, refreshing sleep without risk of habituation or toxicity... 6 to 8 hours of undisturbed rest... an easy awakening in the morning, free of fogginess or barbiturate "hangover." Try Noludar 300 for your next patient with a sleep problem. One capsule at bedtime. Chances are she'll tell you

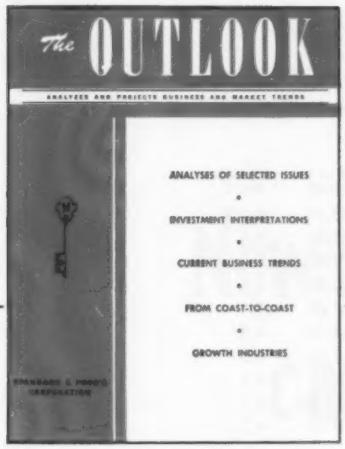
"I slept like a log"

NOLUDAR® 300

brand of methyprylon

300-mg capsules

ROCHE LABORATORIES • Division of Hoffmann-La Roche Inc • Nutley 10, New Jersey



BY SPECIAL ARRANGEMENT

STANDARD & POOR'S

The world's foremost investment advisory service analyzes and projects business and market trends for Medical Times readers.

A PORTFOLIO OF SOUND HIGH YIELDERS

Investment of $10,000 Would Provide a Yield of 4.4%, on Above-Average Return—All Selections Are of Good Investment Quality

Retired persons and others requiring a relatively high rate of income return have had to contend with a fairly steady narrowing of stock yields in recent years. Yields on common stocks, moving inversely to prices, have declined from 4.75% in 1957 on the Standard & Poor's broad index of 500 issues to less than 3%. As a rule, commitments made some time ago have worked out handsomely, but it has become increasingly difficult to obtain a worth-while return on the investment of new funds.

Consideration might be given to high-grade bonds and preferred stocks, which for almost three years have provided larger yields than common stocks, counter to the usual relationship. But many investors are not partial to fixed income securities, preferring instead the inflation-hedge qualities of selected common stocks, as well as the participation they offer in long-range economic growth.

Mindful of the general rule that a high yield often connotes a corresponding degree of risk, we have selected herewith a diversified list of stocks that not only are of good quality but also yield more than 4%. All are backed by long records of uninterrupted dividend payments. The suggested portfolio would provide an average return of 4.4%.

In general, appreciation possibilities may not be outstanding, but these issues, many of which have strong defensive characteristics, are eminently suited for accounts where a liberal and reasonably assured income return is a prime consideration.

BORG-WARNER is a broadly diversified enterprise, deriving about one-third of total sales from household appliances, air conditioning, and building equipment and materials, another one-third of sales from automotive components, and the balance from petroleum equipment and services, chemicals, utility and steel products, industrial machinery, agricultural equipment, aviation parts, nucleonic and electronic items, and defense products. Reviving prospects for most of these lines indicate significant second-half earnings recovery, but profits for 1961 as a whole may be down to about $2.50 a share from $3.01 in 1960. Sharply higher earnings are anticipated for 1962. The $2 dividend rate, which should be maintained, affords a generous return at the present market price. *The stock is well suited for the income-minded investor and additionally merits consideration for further price recovery.*

BOSTON EDISON—Deriving more than 70% of its revenues from residential and commercial customers, this company is much less sensitive to changes in the national business cycle than most electric utilities. As a result, earnings generally move in a relatively narrow range. However, aided by rate increases, per share earnings in the past three years increased around 31% and were at a record high of

A SAMPLE $10,000 PORTFOLIO

NO. OF SHARES		APPROX. COST	ANNUAL INCOME	APPROX. YIELD
25	BORG-WARNER	$1,025	$50.00	4.9%
15	BOSTON EDISON	1,255	45.00	3.6
15	FIRST NATL. STORES	945	37.50	4.0
20	GENERAL MOTORS	880	40.00	4.5
10	LIGGETT & MYERS TOB.	900	50.00	5.5
20	MAY DE"T. STORES	1,020	44.00	4.3
40	NATIONAL FUEL GAS	1,120	48.00	4.3
25	NIAGARA MOHAWK POWER	1,100	45.00	4.1
30	ROYAL DUTCH PETROLEUM	990	†42.90	†4.3
20	SOCONY MOBILE OIL	940	40.00	4.3
		$10,175	$442.40	4.3%

† Plus stock.

$4.10 in 1960. Further moderate improvement is indicated for 1961 and beyond. Considering the liberal payout policy, this could lead to some increase in the $0.75 quarterly dividend. *Purchases are recommended for the conservative investor interested in generous but secure income, as well as in possibilities for moderate capital gains over a period of time.*

FIRST NATIONAL STORES operates the dominant food chain store system in New England. Dividends, paid each year since 1914, have not been increased since the mid-1950's, in view of increased capital outlays and some easing of profits resulting in part from expansion and development costs. Marginal stores continue to be replaced with modern supermarkets, marketing areas are being expanded in New York, New Jersey, and western Connecticut, and distribution centers have been enlarged with a major unit planned in Port Chester, N. Y. Earnings in the fiscal year ended March 25, 1961, were $4.80 a share, down from $5.02 in the preceding year, but final-half comparisons were aided by the introduction of trading stamps in some areas. The $0.50 quarterly dividend should again be supplemented with a $0.50 special dividend in early 1962. *Since a rising earnings base is now in prospect, this sound situation has appeal for gradual appreciation, plus a liberal return.*

GENERAL MOTORS is the nation's largest manufacturing organization, accounting for about half of all domestically-built passenger cars. In addition, it is a major producer of trucks, automotive parts, air conditioning equipment, household appliances, diesel engines and locomotives, earth-moving equipment, and aircraft engines. The decline in earnings for 1961 to an estimated $2.75 a share from $3.35 last year should be about recovered in 1962. The long-standing $2 dividend is secure, and provides an attractive return in today's market. *Although near-term price action is partially dependent upon whether remedial tax legislation with respect to the disposal of duPont holdings is enacted, this stock is attractive on a long-range basis.*

LIGGETT & MYERS is the third largest domestic manufacturer of cigarettes, accounting for about 11% of the market. In recent years, the shift in consumer preference from regular cigarettes to filter and king-size cigarettes has curtailed sales of Chesterfield, the company's largest selling brand. However, the decline in consumption of regular cigarettes appears to have slowed. Meanwhile, demand for king-size Chesterfield and L & M filters should move higher. Also, efforts are being made to revitalize the Oasis brand, a menthol cigarette, which had proved somewhat of a disappointment.

While profits for 1961 are likely to fall short of the $6.96 a share of 1960, earnings in the latter part of the year could be at a significantly higher annual rate. Although barely covered in the first quarter, dividends are expected to hold at $1.25 quarterly. *The shares*

Now arthritic flare-ups can be controlled with much lower steroid dosages

With Somacort to relax muscles and relieve pain, tender joints need far less steroid to reduce inflammation

Somacort is a safe, logical step-up in treatment during the rough days when your patients need more than salicylates to keep comfortable and active.

Soma, by itself, benefits many arthritics by relieving the muscle spasm and pain which arise from joint inflammation. Thus with Somacort, which combines Soma with prednisolone, the amount of steroid needed to control inflammation[1] can be kept within more conservative limits.

Somacort is well tolerated even when used for long-term therapy in more serious cases.

1. Wein, A. B.; The Use of Carisoprodol (SOMA) in Orthopedic Surgery and Rehabilitation, Miller, James G., ed., Wayne State University Press, Detroit, Michigan, 1959.

Recommended dosage: 1 or 2 tablets q.i.d. (Each tablet contains 350 mg. carisoprodol, 2 mg. prednisolone)

SOMACORT™

(carisoprodol, Wallace, with prednisolone)

Wallace Laboratories, Cranbury, New Jersey

LEDERLE INTRODUCES
A NEW TRANQUILIZER

TRE

HELPS THE
PATIENT
"BE HIMSELF"
AGAIN...CALM,
YET FULLY
RESPONSIVE...
USUALLY
FREE OF
DROWSINESS
OR EUPHORIA

PIDONE®

Mephenoxalone Lederle

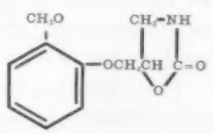
TO RESTORE THE NORMAL PATTERN OF EMOTIONAL RESPONSE

TREPIDONE Mephenoxalone is a new tranquilizer which has shown the capacity to relieve mild to moderate anxiety and tension without detracting significantly from mental alertness. Treated patients have shown little tendency to become sleepy or detached from reality, or to experience euphoria as a result of the drug. They generally respond normally to everyday situations . . . require fewer restrictions on activities, and tend to complain less frequently.

Extensive trials have shown no habit-forming properties or adverse effects on withdrawal, even after long-term administration. Complete information on indications, dosage, precautions and contraindications is available from your Lederle representative, or write to Medical Advisory Department.

Average adult dosage: One 400 mg. tablet, four times daily. Supplied: Half-scored tablets 400 mg. TREPIDONE Mephenoxalone, bottle of 50.

chemically distinct from previous tranquilizers



LEDERLE LABORATORIES
A Division of AMERICAN CYANAMID COMPANY
Pearl River, New York

STATISTICAL BACKGROUND OF SELECTED ISSUES

*ISSUE	—EARN. $ PER SHARE— 1959	1960	E1961	—DIVIDENDS $— PAID SINCE	1959	1960	INDIC. RATE	1961 PRICE RANGE	RECENT PRICE	‡P-E RATIO	YIELD %
BORG-WARNER	4.36	3.01	2.50	1928	2.00	2.00	2.00	43⅝-35	41	16.4	4.9
BOSTON EDISON	3.69	4.10	4.30	1890	2.85	3.00	3.00	76¼-67	77	17.2	3.9
FIRST NATIONAL STORES	[1]5.28	[1]5.02	[1]A4.80	1914	2.50	2.50	2.50	67 -49¼	63	12.7	4.0
GENERAL MOTORS	3.05	3.35	2.75	1915	2.00	2.00	2.00	49½-40⅝	44	16.4	4.5
LIGGETT & MYERS TOBACCO	7.28	6.96	6.50	1912	5.75	5.00	5.00	94⅞-81⅜	90	13.7	5.6
MAY DEPARTMENT STORES	[2]3.28	[2]3.11	[2]3.25	1911	2.20	2.20	2.20	55½-44⅛	51	16.0	4.3
NATIONAL FUEL GAS	1.74	1.86	1.90	1903	1.15	1.20	1.20	30⅛-23¾	28	14.2	4.3
NIAGARA MOHAWK POWER	2.07	2.24	[4]2.35	1950	1.80	1.80	1.80	45⅞-38¾	44	18.3	4.1
ROYAL DUTCH PETROLEUM	3.61	3.65	3.75	1947	1.18	[3]1.428	[3]1.43	43⅞-32¾	33	9.1	[3]4.3
SOCONY MOBILE OIL	3.37	3.76	4.10	1902	2.00	2.00	2.00	48½-38¾	47	11.2	4.3

* Listed on New York Stock Exchange. ‡ Based on estimated 1961 earnings. [1] Years ended March 31. [2] Years ended Jan. 31 of following calendar year. [3] Plus stock. [4] Excluding possible rate increases. A—Actual. E—Estimated.

afford a yield well above average, and have merit on that basis.

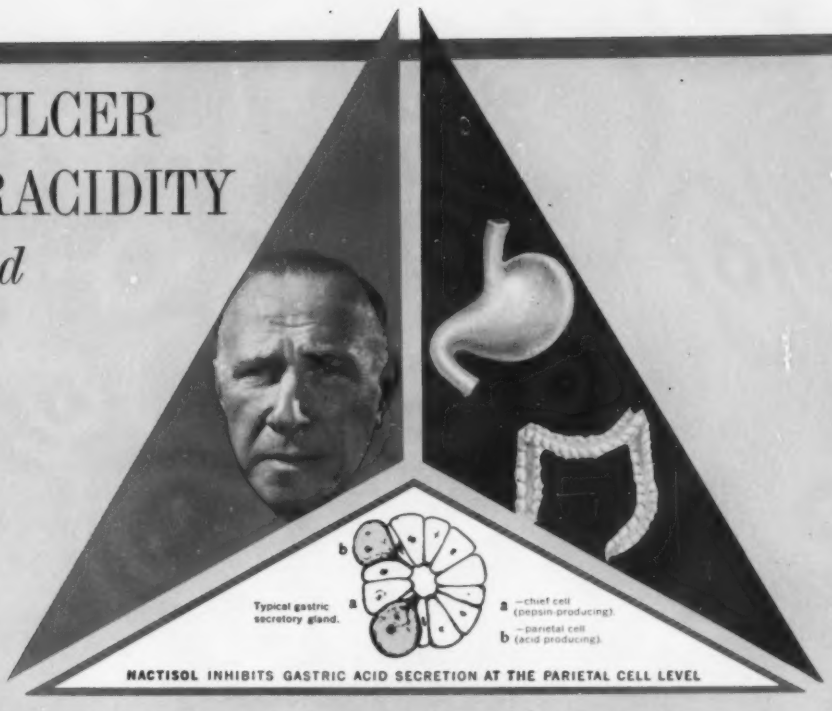
MAY DEPARTMENT STORES is one of the largest organizations in its field, with an outstanding earnings and dividend record. It operates 50 stores, including branches, in 11 metropolitan areas. Under a major expansion program, $42,000,000 was spent in 1960 and some $25,000,000 is to be spent in 1961. Some of the new units will have two distinct and roughly equal parts offering fashion merchandise along conventional department store lines and new discount merchandising with self-service. Acquisitions in the discount field are also possible. Earnings in the fiscal year ended January 31, 1961, declined to $3.11 a share from $3.28 in 1959-60, and were again lower in the first quarter of the current year. However, larger net is still likely for the present fiscal year, and dividends are expected to continue at $0.55 quarterly. *This conservative issue has attraction for the patient investor interested at present in a worthwhile return.*

NATIONAL FUEL GAS is a holding entity for an integrated natural gas system serving a contiguous area from Buffalo and western New York across Pennsylvania into eastern Ohio. Primarily reflecting the lower level of business activity in this area, earnings in the first quarter of this year dropped to $1.04 a share from $1.15 in the similar period of 1960. Allowing for an anticipated upsurge in local industrial activity and assuming average degree days over the remaining heating months, profits for the full year should hold fairly close to the $1.86 a share of 1960. Longer-range prospects are basically favorable, suggesting periodic dividend increases. The current rate of $0.30 quarterly represent a 50% increase since 1952. *The stock is a sound commitment for income purposes.*

NIAGARA MOHAWK POWER—Operating in upstate New York, this large electric-gas utility serves a highly industrialized territory extending from Albany to Buffalo and embracing most of the populous communities in the area. Earnings growth has been restricted for a number of years following the 1956 disaster at Niagara Falls when a rock slide wiped out a substantial part of the company's hydroelectric generating capacity. Notable recovery in 1960 raised profits to $2.24 a share from $2.07 the year before, and further gains are projected this year. Estimates for 1961 range between $2.35 and $2.50 or more a share, depending on Commission action on pending rate increase application. A favorable decision would encourage some liberalization of the long-standing $1.80 annual dividend. *The common stock has appeal for liberal income and moderate long-term price appreciation.*

ROYAL DUTCH PETROLEUM, through its holdings, ranks as the second largest factor in the world oil industry, with about half of its production in the Western Hemisphere. On a world-wide basis, operations are well balanced

IN PEPTIC ULCER AND HYPERACIDITY *with associated* tension and nervousness



NACTISOL*

- suppresses gastric acid secretion at the parietal cell level
- decreases gastrointestinal hypermotility
- relieves nervousness and tension

NACTISOL combines:

NACTON® 4 mg. (poldine methylsulfate†) — new inhibitor of gastric acid secretion and hypermotility "...reduces the total output of gastric HCl by about 60%"[1]

plus

BUTISOL SODIUM® 15 mg. (butabarbital sodium) — "daytime sedative" with highest therapeutic index[2] (highly effective, minimal side effects)

smooth, predictable sedation of *6 hours' duration*

- Side effects with NACTISOL therapy have been minimal.[3-5]

NACTISOL*...in scored, yellow tablets

References

1. Douthwaite, A. H.: The Development of the Treatment of Duodenal Ulcer, Proc. Roy. Soc. Med. *51*:1063-1068 (December) 1958. 2. Batterman, R. C., Grossman, A. J., Leifer, P., and Mouratoff, G. J.: Clinical Re-evaluation of Daytime Sedatives, Postgrad. Med. *26*:502-509 (October) 1959. 3. Steigmann, F.: Clinical Report to McNeil Laboratories. 4. Lorber, S. H.: Clinical Report to McNeil Laboratories, December 6, 1960. 5. Rider, J. A.: Clinical Report to McNeil Laboratories.

McNEIL McNEIL LABORATORIES, INC., Fort Washington, Pa.

*Trademark
†U. S. Patent

GUIDE FOR INVESTORS

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

1. Think before buying, guard against all high pressure sales.

2. Beware of promises of quick spectacular price rises.

3. Be sure you understand the risk of loss as well as prospect of gain.

4. Get the facts—do not buy on tips or rumors.

5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.

6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.

7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects.

and flexible. The group has been exceptionally progressive in upgrading refined output and in stepping up representation in the chemical division of the business. Earnings in 1961 are conservatively estimated around $3.75 a 20 guilder share, up from $3.65 in 1960 after adjusting for the 10% stock dividend payable June 23, 1961. Dividends out of 1961 profits may well continue in line with the $1.43 paid from 1960 earnings. *The issue, which includes about three-tenths of a share of Shell Oil (U.S.), sells lower in relation to earnings than most other internationals and now provides a satisfactory yield.*

Socony Mobil Oil, the second largest U.S.-based petroleum company, has a broadly dispersed world-wide position. About 70% of its crude production is derived from sales outside the U.S. and Canada. In 1960, 37½% of earnings came from this country, 16% from elsewhere in the Western Hemisphere and 46½% from the Eastern Hemisphere. Foreign operations involve certain risks, but rapid growth abroad provides an offset. Earnings in 1961 are estimated around $4.10 a share, up from $3.76 in 1960 and $3.37 a year before. The $0.50 quarterly dividend is considered secure. *The issue, somewhat neglected in the past two years in line with other major oils, has much to commend it as an income producer, backed by the likelihood of further earnings recovery.*

SHIFT TO CYCLICAL ISSUES

Investor preferences have been shifting in recent weeks. Cyclical issues finally have been attracting growing interest as economic recovery has gained momentum, although the movement is not yet uniformly in that direction. Groups such as auto trucks, chemicals, construction and materials handling machinery, industrial machinery, metal fabricating, railroad equipment, and tires and rubber have been outperforming the market, but thus far steel, aluminum, paper, machine tools, and rails have lagged.

The reviving demand for cyclicals has been partly at the expense of electronics stocks, other high-flying glamour equities, and "hot"

RAMSES® prophylactics—to prevent re-infection in vaginal trichomoniasis.

Confirming the views of many others,[1-3] Romney[4] has recently pointed out that *Trichomonas* may be harbored asymptomatically in the male and transmitted to the female to produce a resistant vaginitis; and that "... therapy which is directed solely towards the female patient is unrealistic and ineffectual." For this reason, the husband's cooperation must be enlisted in order to end this cycle of infection and re-infection.

Husbands appreciate RAMSES, the prophylactic with "built-in" sensitivity.

The exquisite sensibility preserved by this tissue-thin, natural gum-rubber sheath of amazing strength and solid clinical reliability places RAMSES almost out of human awareness. Without imposition or deprivation for the sake of cure, the routine use of RAMSES with "built-in" sensitivity is readily adopted, even by the husband who fears loss of sensation.

1. Karnaky, K. J.: South. M. J. *51*:925 (July) 1958.
2. Giorlando, S. W., and Brandt, M. L.: Am. J. Obst. & Gynec. *76*:666 (Sept.) 1958.
3. Davis, C. H., and Grand, C. G.: Am. J. Obst. & Gynec. *68*:559 (Aug.) 1954.
4. Romney, S. L.: M. Sc. *8*:235 (Aug. 25) 1960.

RAMSES®
PROPHYLACTICS

JULIUS SCHMID, INC.
423 West 55th Street
New York 19, N.Y.

new issues, many of which have experienced a cooling of speculative fervor after having reached unrealistically high levels. Also, there has been some shift from the defensive stocks, which had turned in the best relative performances for the past year or more. But, here too, trends have been mixed. Relinquishing their market leadership have been biscuit bakers, dairy products, canned foods, finance, small loan companies, and telephone. On the other hand, good buying is still evident in confectionery, corn refiners, packaged foods, food chains, cigarettes, and banks.

The advantages offered by cyclical issues at this stage are: (1) that they stand to benefit importantly from the upward swing in the business cycle, and (2) that they are still quite reasonably valued.

Taking all considerations into account, we are upgrading our relative market position ratings for aluminum, department stores, electric household appliances, metal fabricating, rails, steel, and tires. On the other hand, group standings are being lowered for aircraft, building (cement), building (roofing and wallboard), electronics, and publishing.

APPEAL OF STOCK GROUPS MEASURED AGAINST THE MARKET

Presented below is our appraisal of the performances likely to be turned in by leading stock groups relative to the general market over the next six months or so. The objective should be to switch out of the least attractive categories into those expected to make a more favorable market showing.

MOST FAVORABLY SITUATED

Aluminum	Insurance (Fire)	Oil (Crude Producers)	Soft Drinks
Automobiles	Mach. (Const. &	Oil (Integrated Domestic)	Steel
Auto Trucks	Matl. Hand.)	Oil (International)	Sulphur
Chemicals	Machinery (Industrial)	Railroads	Textile Weavers
Elec. Household	Machinery (Steam Gen.)	Retail Trade	Tires & Rubber Goods
Appliances	Metal Fabricating	(Dept. Stores)	
Insurance (Casualty)	Office Equipment		

DEFENSIVE ISSUES

Banks	Dairy Products	Natural Gas Distributors	Telephone
Biscuit Bakers	Drugs	Retail Trade	Tobacco (Cigarettes)
Confectionery	Finance Companies	(Food Chains)	Utilities (Electric)
Corn Refiners	Foods—Packaged	Small Loan Companies	

AVERAGE

Air Transport	Containers	Investment Companies	Radio-TV Manufacturers
Aircraft Manufacturing	(Metal & Glass)	Machine Tools	Rail Equipment
Apparel	Containers (Paper)	Machinery (Agricultural)	Rayon & Acetate Yarn
Auto Parts	Copper	Machinery (Oil Well)	Retail Apparel Chains
Brewing	Distilling	Machinery (Specialty)	Retail Trade (Mail Order)
Building (Cement)	Electrical Equipment	Meat Packing	Retail Trade
Building (Heat., Air	Electronics	Motion Pictures	(Variety Chains)
Cond. & Plumb.)	Fertilizers	Natural Gas Pipe Lines	Shoes
Building (Roof. &	Flour Millers	Paper	Soaps
Wallboard)	Foods—Canned	Publishing	Sugar (Beet Refiners)
Coal (Bituminous)	Insurance (Life)	Radio-TV Broadcasters	Tobacco (Cigars)

LEAST ATTRACTIVE

Bread & Cake Bakers	Gold Mining	Sugar (Cane Producers)	Vegetable Oils
Carpets & Rugs	Lead & Zinc	Sugar (Cane Refiners)	

once again, an active hand in "doing"–

PABALATE®

mutually potentiating nonsteroid antirheumatics

"superior to aspirin"[2] and with a "higher 'therapeutic index'"[1]

In each yellow enteric-coated PABALATE *tablet:*

Sodium salicylate (5 gr.) 0.3 Gm.
Sodium para-aminobenzoate (5 gr.) 0.3 Gm.
Ascorbic acid.....50.0 mg.

When sodium should be avoided—

PABALATE®-SODIUM FREE

In each pink enteric-coated PABALATE-SODIUM FREE *tablet:*

Same formula as PABALATE, with sodium salts replaced by potassium salts.

When conservative steroid therapy is indicated—

PABALATE®-HC

Pabalate with Hydrocortisone

In each light blue enteric-coated PABALATE-HC *tablet:*

Same formula as PABALATE-SODIUM FREE, plus hydrocortisone (alcohol) . . . 2.5 mg.

1. Barden, F. W., et al.: J. Maine M. A. 46:99, 1955.
2. Ford, R. A., and Blanchard, K.: Journal-Lancet 78:185, 1958.

A. H. ROBINS COMPANY, INC., RICHMOND 20, VIRGINIA

Making today's medicines with integrity . . . seeking tomorrow's with persistence.

NINE CANDIDATES FOR DIVIDEND BOOSTS

Total Cash Dividends at a High Level, Despite Recession Casualties — Increased Payments in Prospect as Earnings Recover

The continuing high level of dividend payments has been one of the brightest aspects of the financial scene. Although recessionary influences were responsible for a number of dividend omissions or reductions, these were more than offset by increases in rates. As a consequence, aggregate cash payments for the first five months of 1961 were about 2% above the total for the corresponding period of last year.

This good showing, in the face of reduced earnings in cyclical industries, is attributed to (1) the fact that most companies have established regular rates that could be maintained through good or bad times, and (2) continued profits growth in various consumer goods and service lines, including foods, finance, and public utilities.

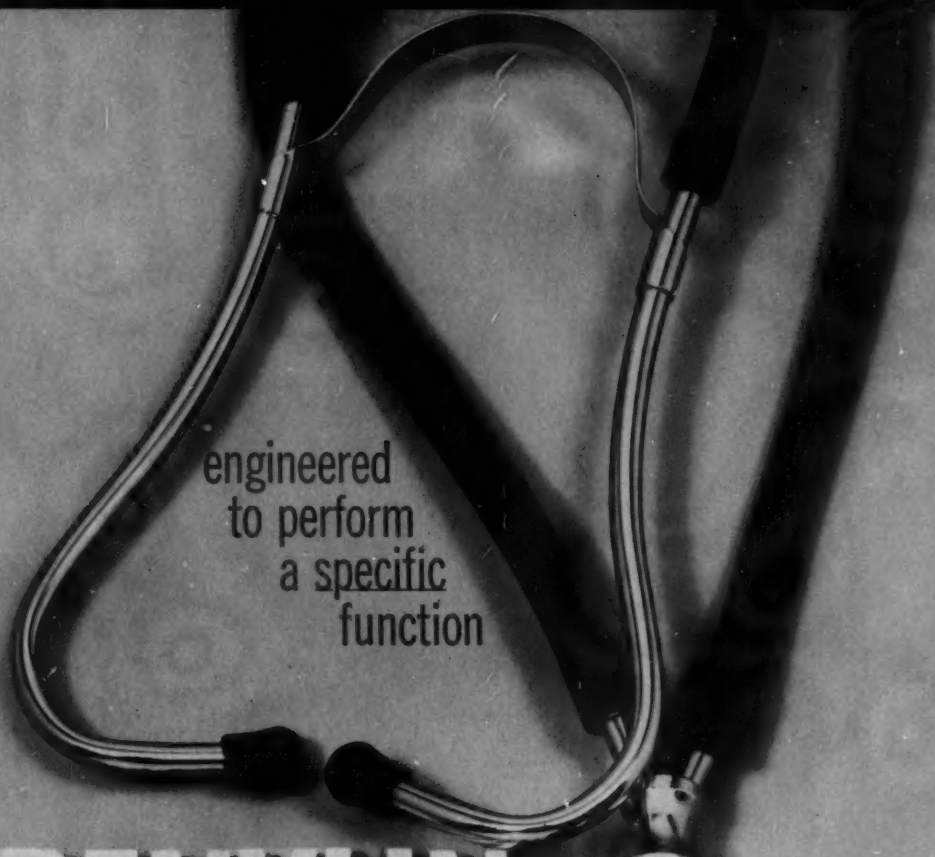
With general business again in an upward trend, more liberal dividend payments are in prospect as earnings recover. The stocks listed on the following pages are regarded as good candidates for dividend increases before the end of this year or in the early part of 1962. Almost all of the issues are well situated from an investment standpoint, especially those reviewed herewith.

● AMERICAN CHICLE, the second largest maker of chewing gum, for a number of years has put special emphasis on the promotion of high-priced items added to its basic gum line. Reflecting this development, population growth in the U.S., and foreign expansion, sales have exhibited strong growth, while earnings have increased each year since 1951. Prospects favor a new sales peak this year. Research and development and introductory costs will be higher, but a full year of higher selling prices suggests moderate improvement in earnings over the peak $3.35 a share of 1960. Dividends, now at $0.40 quarterly, supplemented with a $0.40 year-end extra, could be increased, in our opinion. It may take a year or more for two new premium-priced items to achieve national distribution and possibly two or three years to contribute to profits. However, the development of such items favors the longer-term outlook. *The shares are considered a sound commitment for conservative income and further appreciation.*

● CENTRAL ILLINOIS PUBLIC SERVICE serves both electricity and gas in central and southern Illinois, a region benefiting from rapid industrial expansion. The combination of steady revenue growth and the absence of equity financing during the next five years suggests that share earnings will rise at a somewhat better rate than the 5% average annual increase recorded during the past five years. For 1961, profits are estimated at a minimum of $3.15 a share, compared with $3.01 a year before. The promising earnings outlook augurs well for higher dividends. Payments, currently at the rate of $0.53 quarterly, probably will be increased moderately early in 1962. Present prices for the shares also suggest the possibility of a stock split. *With a yield of approximately 3.1% currently available, this good-quality stock is attractive for both income and gradual capital gains.*

● CORN PRODUCTS is the world's largest corn refiner and the second largest food processor. About 40% of profits is derived from foreign countries. With the rate of increase in the standard of living greater in Europe than in this country and growing even faster in Latin America, the company looks for foreign business to contribute half of profits in the relatively near future, even though domestic growth is continuing at a rapid pace. This year's sales and earnings are expected to be considerably above the peak $691 million sales and $1.74 a share of 1960, the latter adjusted

---



BENYLIN EXPECTORANT

specifically designed to help control cough

Just as a medical instrument is engineered for maximum efficiency in performing its specific function, BENYLIN® EXPECTORANT is formulated to provide effective relief of cough associated with colds or allergy.

The outstanding antitussive action of BENYLIN EXPECTORANT is attributed to a combination of carefully selected therapeutic agents. Benadryl,® a potent antihistaminic-antispasmodic, reduces bronchial spasm, quiets the cough reflex, and lessens nasal stuffiness, sneezing, lacrimation, itching, and other allergic manifestations. Concurrent respiratory congestion is relieved by expectorant agents that efficiently break down tenacious mucosal secretions. In addition, a demulcent action soothes irritated throat membranes.

BENYLIN EXPECTORANT is a pleasant-tasting, raspberry-flavored syrup...completely acceptable to patients of all ages.

supplied: BENYLIN EXPECTORANT is available in 16-ounce and 1-gallon bottles.

Each fluidounce contains: 80 mg. Benadryl Hydrochloride (diphenhydramine hydrochloride, Parke-Davis); 12 gr. ammonium chloride; 5 gr. sodium citrate; 2 gr. chloroform; 1/10 gr. menthol; and 5% alcohol. *Indications:* Relief of coughs due to colds, other symptoms associated with colds, and coughs of allergic origin. *Dosage:* Adults—1 to 2 teaspoonfuls every three to four hours. Children—½ to 1 teaspoonful every four hours. *Precautions:* Products containing Benadryl should be used cautiously with hypnotics or other sedatives; if atropine-like effects are undesirable; or if the patient engages in activities requiring alertness or rapid, accurate response (such as driving).

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

An iron you can depend on for continued effectiveness

CHĒL~IRON®

Brand of Ferrocholinate*

"Data presented in this report indicate that iron choline citrate [ferrocholinate], a chelated form of iron ...[is relatively free] from undesirable gastrointestinal effects."[1]

CHĒL-IRON, in its various dosage forms, offers optimal assurance of effective therapy for *more* of your patients. Since it is neither ionized nor precipitated after ingestion, CHĒL-IRON rarely causes the gastrointestinal complaints reported with *nonchelated* iron salts, such as ferrous sulfate or ferrous gluconate.[1,2] Thus, your supplemental or therapeutic iron regimen is uninterrupted, and full hematologic benefits are maintained.

CHĒL-IRON is also less likely to cause dangerous toxic reactions on accidental overdosage.[1]
Supplied: CHĒL-IRON *Tablets,* 3 tablets equivalent to 120 mg. elemental iron, bottles of 100. CHĒL-IRON *Liquid,* 1 teaspoonful equivalent to 50 mg. elemental iron, bottles of 8 fl.oz. CHĒL-IRON *Pediatric Drops,* 1 cc. equivalent to 25 mg. elemental iron, with calibrated dropper, bottles of 60 cc.

1. Franklin, M., et al.: J.A.M.A. 166:1685, 1958.
2. A.M.A. Council on Drugs: New and Nonofficial Drugs 1960, Philadelphia, Lippincott, 1960, p. 521.

*U.S. Pat. 2,575,611

KINNEY & COMPANY, INC. *Columbus, Indiana*

for the recent 2-for-1 stock split. Dividends, now at $0.30 a share quarterly on the split stock, may be increased. *The shares have considerable appeal for conservative long-term investment.*

● FAMILY FINANCE operates about 350 personal loan offices in 33 states. For several years, per share earnings made little progress, in part because of expense incident to a large-scale branch expansion program. More recently, however, benefits of this program have begun to show up strongly. Earnings for the fiscal year ended June 30, 1961, are believed to have approximated $2.80 a share, up from $2.40 the year before. An expected further gain may take earnings above the $3 a share level for fiscal 1961-62. An increase in the $0.40 quarterly dividend, possibly to $0.45, is in near-term prospect. *Yielding approximately 3.7% on the present rate and priced at about 16 times estimated 1960-61 earnings, the shares are a worthwhile commitment.*

● GLENS FALLS INSURANCE—The current year started off badly for this company and the industry. Increased fire losses and auto accidents, due primarily to the severe winter weather, caused a net underwriting deficit of $1.20 a share for the first quarter. This deficit, however, should be largely offset by much better results over the rest of 1961. The auto rate increase obtained in New York in March will have important benefits in view of the company's large volume of business in that state. Investment income, meanwhile, is expected to continue higher and should exceed $3.50 a share this year. An increase in the $0.25 quarterly dividend can be expected as underwriting results improve. *Selling substantially below the stockholders' equity value of about $69, these shares are attractively priced for appreciation possibilities.*

● REYNOLDS (R. J.) TOBACCO is the largest factor in the cigarette industry, and its sales growth for a number of years has been the most consistent. The company's Camel, Winston, and Salem brands are the respective leaders in the regular, filter, and menthol markets. Each of these brands is expected to experience higher sales during the current year, and, now that the $100 million expansion and modernization program has been substantially completed, some further improvement in operating margins is likely. Thus, earnings for 1961 should again reach a new peak close to $5.50 a share, which would compare with $5.21 in 1960 (including a nonrecurring credit of $0.16 a share). Dividends have been increased in each of the past seven years, and some liberalization of the present $0.65 quarterly rate is possible later in the year. *The shares continue to be an outstanding long-range investment.*

● SAFEWAY STORES, with 2,200 stores, is the second largest of the food chains. Through a process of closing smaller stores and opening large supermarkets, it has been able to expand its sales, operating margins, and net earnings. Plans for 1961 call for the opening of about 170 new markets and the closing of some 140 older units. Over 60% of the stores are less than 10 years old. Annual additions are expected to continue at from 150 to 200 stores. Because of expansion requirements, dividends during most of the 1950's were conservative, although payments were increased in each of the last four years. Earnings should reach a new peak this year, or close to $3 a share, against $2.72 in 1960, and the quarterly dividend probably will be increased to $0.40 from the present $0.37½ quarterly rate. *In view of the favorable outlook for earnings and dividends over the longer-term, the stock has considerable appeal.*

● SCOTT PAPER continues to aggressively expand and broaden its product line. Presently the largest producer of sanitary papers, the company has entered the sanitary napkin field and recently increased its capacity to produce high-grade and specialty papers by 70,000 tons annually. Meanwhile, construction of new facilities for the production of polyurethane foam, which has applications in the apparel and air filter industries, extends the company's activities into completely new fields and adds a sizable plus to the already promising long-term outlook.

Demand for Scott products continues to grow, and earnings for 1961 are expected to reach a new high of around $3.75 a share, up from $3.40 in 1960. Capital expen-

in depression
for greater emotional stability in the aging patient

Tofrānil® Tablets of 10 mg. for geriatric use

Brand of imipramine hydrochloride

Geigy

During the declining years, frustration arising from declining capacity to participate in social and family activities often leads to depression, manifested frequently in unpredictable swings of mood.[1]

The value of Tofrānil in restoring the depressed elderly patient to a more normal frame of mind has received strong support from recent studies.[1-3] Under the influence of Tofrānil, such symptoms as irascibility, hostility, apathy and compulsive weeping are often strikingly relieved with the result that life becomes easier both for the patient and those around him.

Since the dosage requirements of elderly patients are lower than those of the non-geriatric patient, Tofrānil is made available in a special low dosage 10 mg. tablet designed specifically for geriatric use.

Full product information regarding dosage, side effects, precautions and contraindications available on request.

References: 1. Cameron, E.: Canad. Psychiat. A. J., Special Supplement 4:S160, 1959. 2. Christe, P.: Schweiz. med. Wchnschr. 90:586, 1960. 3. Schmied, J., and Ziegler, A.: Praxis 49:472, 1960.

Tofrānil®, brand of imipramine hydrochloride: Triangular tablets of 10 mg. for geriatric use; also available, round tablets of 25 mg., and ampuls for intramuscular administration only, each containing 25 mg. in 2 cc. of solution (1.25 per cent).

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

TO-457-61


I know
it is
effective

ditures are scheduled to drop sharply from the $40 million level of 1960, and the anticipated gain in earnings could allow some liberilization of the current $0.55 quarterly dividend. *Although high relative to earnings, and despite the prospect of substantial dilution from debenture conversions, the shares are well situated for the long pull.*

● SOUTHERN COMPANY—This integrated holding company operates in sections of Alabama, Georgia, Mississippi and northwest Florida, a growing region that is highly diversified industrially and agriculturally. During the past decade, share earnings almost doubled and reached $2.06 in 1960. Despite reduced economic activity and unseasonable weather in some sections of the territory earlier this year, as well as the sale of additional stock, earnings for 1961 should be slightly higher. As to the longer term, prospects are highly promising. Indicative of the extent of growth anticipated for the service area, the company plans to spend $515 million for construction in the period 1961-63 and add 932,100 kw. of generating facilities to the system. In line with the policy of liberalizing dividends annually, payments will probably be increased early next year from an annual rate of $1.50 to $1.60. *The stock, currently off about 10% from its 1961 high, is a sound commitment for investors interested in long-range capital gains and gradual betterment in income.*

FROM COAST TO COAST

This year's profits of INTERNATIONAL TELEPHONE & TELEGRAPH are estimated about 10% above the $1.95 a share of 1960. The company believes it is still on target for achieving its goal of $4 or more a share by 1965. . . . ELECTRIC AUTOLITE will purchase and retire more of its shares, probably after receiving the final payment in October for sale of certain assets to Ford Motor. . . . TALON, INC., is faring better than in 1960, partly reflecting benefits from design changes in its fasteners. Full-year profits seem headed for about $2 a share, up from last year's $1.57. . . . Earnings of U. S. BORAX & CHEMICAL for the fiscal year ending September 30, 1961, may not quite match the $1.50 a share of fiscal 1960. Plans to acquire Lestoil have been dropped.

DAITCH CRYSTAL DAIRIES is discussing a merger with BOHACK (H. C.) CO., which would be the acquiring company. Daitch currently is confronted with cost problems incident to its expansion in the "luxury" areas of Manhattan. . . . Earnings of NATIONAL CO. may be off in 1961, perhaps significantly so from last year's $0.40 a share. . . . Benefiting from increased stock market activity, TRANS-LUX CORP., lessor of projection equipment to brokerage firms, is expected to net $1.25 a share this year, up from $0.86 in 1960. The closed circuit television venture has not yet begun to show a profit, and the television syndication program, just begun, will incur start-up costs.

TECHNICOLOR WOOING AMATEUR MARKET

Under new management, this company, well-known for its color film process widely used in the production of theatrical motion pictures, is placing increased emphasis on the development of photographic equipment and supplies for the amateur market. The first of these products, an 8mm movie film, was recently introduced. A simplified low-priced home

movie projector, to be manufactured by Eversharp, Inc., for cost plus 10%, is scheduled for regional marketing in August. Although the anticipated joint venture with du Pont to market that company's new still color film did not materialize, Technicolor has announced plans to introduce its own color negative film in sizes 620 and 127. Share earnings in the first quarter of 1961 were $0.18, up from $0.13 in the year-earlier period, when 25% fewer shares were outstanding. For the full year, profits are expected to be in the area of $0.65-$0.75 a share, against $0.16 reported in 1960.

With the projector and other new consumer items contributing on a full-year basis, 1962 results could show considerable further improvement. *While the shares are a speculation on the success of recent entry into new fields, recent prices (29 A.S.E.) may not be overly discounting the earnings potential of these moves.*

CANADIAN STOCKS MORE ATTRACTIVE

Appeal Enhanced by Dip in Canadian Dollar, Especially for Concerns Selling Major Portion of Output Here—10 Favored Issues

Now that the Canadian dollar is selling at a discount rather than a premium, as it had in recent years, Canadian securities have become a more attractive investment medium for U.S. investors. Canadian firms which do not have to purchase raw materials outside of Canada but which sell their output in the U.S. are in a particularly favorable position to benefit from the change in the relative valuation of the U.S. and Canadian dollars.

In addition, business recovery in Canada has set in. The Canadian recession was not so deep as that in the U.S., just as its recovery from the 1958 recession was not so strong. It would appear that the Canadian economy hit bottom around the end of the first quarter and is now on its way up. We would expect the improvement to accelerate in the closing months of this year.

Canadian securities normally sell at a lower price-earnings relationship than U.S. stocks. This sometimes provides an opportunity for U.S. investors to buy at what would be bargain prices by our own standards.

Tax Status—On the basis of tax treatment, dividend-paying Canadian stocks for some time have been more attractive to Canadians than to U.S. investors. The former are allowed a dividend tax credit of 20% on dividends from taxpaying Canadian corporations, as well as 20% for depletion on dividends from mining enterprises.

Dividends paid to U.S. holders are subject to a 15% withholding tax, which generally can be credited against U.S. income taxes. However, Canadian dividends do not qualify for the dividend credit of $50 per person, plus 4% credit, allowed to U.S. taxpayers on dividends received from domestic corporations.

We believe that a number of Canadian stocks are attractive currently. We especially favor those selected herewith.

ALUMINIUM LTD., accounting for a fifth of free world aluminum output, operates smelting and fabricating plants in most major metal-using regions, but the bulk of its aluminum production and profits are still derived from hydroelectric-powered smelters in Canada. The higher prices resulting from the swing in the Canadian dollar from a 3% average premium (in 1960) to a 3% discount recently should offset much of the pressure on profits from price concessions in some markets and cost increases.

Overexpansion of the aluminum industry is less of a problem to this producer than it was two years ago, since captive fabricating outlets have been enlarged substantially and further expansion is under way. Earnings in 1961 should be fairly close to last year's $1.28 a share, and quarterly dividends of $0.15 should again be supplemented with a $0.10 year-end extra. A much higher earnings potential is indicated when the projected growth in aluminum consumption allows fuller utilization of the company's basically low-cost production

the first complete physiologic regulator of female cyclic function

ENOVID®

(BRAND OF NORETHYNODREL WITH ETHYNYLESTRADIOL 3-METHYL ETHER)

The basic action

ENOVID closely mimics the balanced progestational-estrogenic action of the functioning corpus luteum. This action is readily understood by a simple comparison. In effect, ENOVID *induces a physiologic state which simulates early pregnancy—except that there is no placenta or fetus.* Thus, as in pregnancy, the production or release of pituitary gonadotropin is inhibited and ovulation suspended; a pseudodecidual endometrium ("pseudo" because neither placenta nor fetus is present) is induced and maintained. Further, during ENOVID therapy, certain symptoms typical of normal pregnancy may be noted in some patients, such as nausea—which is usually mild and disappears spontaneously within a few days—breast engorgement, some degree of fluid retention, and often a marked sense of well-being. There is no androgenicity. ENOVID *is as safe as the normal state of pregnancy.*

The basic applications

1. Correction of menstrual dysfunction. *Cyclic* therapy with ENOVID controls dysfunctional uterine bleeding (menorrhagia, metrorrhagia) and often establishes a normal menstrual cycle in amenorrhea.

2. Ovulation suppression (to suspend fertility). For this purpose ENOVID is administered *cyclically*, beginning on day 5 through day 24 (20 daily doses). The ovary remains in a state of physiologic rest and there is no impairment of subsequent fertility.

3. Postponement of the menses for reasons of health (impending hospitalization for surgery, during treatment of Bartholin's gland cysts, acute urethritis, rectal abscess, vaginitis), travel, forthcoming marriage, or pressing business or professional engagements.

4. Threatened abortion. *Continuous* ENOVID treatment provides balanced hormonal support for the endometrium in threatened or habitual abortion.

5. Endocrine infertility. ENOVID has been used successfully in *cyclic* therapy of endocrine infertility, promoting subsequent pregnancy through a probable "rebound" phenomenon.

6. Endometriosis. *Continuous* therapy with ENOVID corrects endometriosis by producing a pseudodecidual reaction with subsequent absorption of aberrant endometrial tissue.

The basic dosage

Basic dosage of ENOVID is 5 mg. daily in *cyclic* therapy, beginning on day 5 through day 24 (20 daily doses). Higher doses may be used with complete safety to prevent or control occasional "spotting" or breakthrough bleeding during ENOVID therapy, or for rapid effect in emergency treatment of dysfunctional bleeding and threatened abortion. ENOVID is available in tablets of 5 mg. and 10 mg. Literature and references, covering over five years of intensive clinical study, available on request.

SEARLE *Research in the Service of Medicine*

From the beginning, woman has been a vassal to the temporal demands—and frequently the aberrations—of the cyclic mechanism of her reproductive system. Now, to a degree heretofore unknown, she is permitted normalization, enhancement, or suspension of cyclic function and procreative potential. This new physiologic control is symbolized in an illustration borrowed from ancient Greek mythology—Andromeda freed from her chains.

STATISTICAL BACKGROUND OF SELECTED CANADIAN ISSUES

	†Earnings $ Per Share						†Dividends		‡1961	Approx.	Yield
	1956	1957	1958	1959	1960	E1961	Paid Since	Indic. Rate	Price Range	Price	%
* Aluminium Ltd.	1.85	1.27	0.74	0.79	1.28	1.20	1939	‡[1]0.70	38¾-31⅞	34	2.1
• British American Oil	1.36	1.74	1.00	1.25	1.51	1.60	1909	1.00	36⅜-29¾	30	3.3
Dome Mines	1.00	0.93	0.93	0.97	1.00	1.00	1920	‡0.70	28⅛-20	22	3.2
Exquisite Form Brassiere	[3]0.37	[3]0.40	[3]0.47	[3]0.16	[3]0.48	[3]E1.15	1961	0.60	14½-14	14	4.3
Great Lakes Paper	0.81	0.57	0.57	0.49	0.72	1.00	1947	0.60	18⅞-16¾	18	3.3
Imperial Investment Cl. A.	...	[2]1.34	[2]1.22	[2]0.96	[2]1.09	[2]1.20	1951	0.60	20 -13⅜	20	3.0
* International Nickel	‡3.25	‡2.95	‡1.36	‡2.92	‡2.76	‡3.50	1934	‡1.60	81½-58¼	80	2.0
Loeb (M) Ltd.	0.19	0.28	0.35	0.52	0.68	0.90	1959	0.30	17¾-12⅛	17	1.8
Oshawa Wholesale Ltd.	0.27	0.30	0.48	0.63	0.85	1.05	....	0.30	22¼-12	21	1.4
Rothmans of Pall Mall	...	[2]d0.32	[2]d3.98	[2]d3.27	[2]d0.09	[2]0.35	....	Nil	14 - 3⅝	14	..

* New York Stock Exchange. • American Stock Exchange. E—Estimated. d—Deficit. † Canadian funds. ‡ U.S. funds. [1] Incl. extra. [2] Years ended June 30. [3] Years ended Feb. 28.

facilities. *The shares are well situated for long-term purposes.*

British American Oil, one of the few integrated petroleum units in Canada, ranks second to Imperial Oil as an oil marketer. Throughput capacity of the six refineries is around 162,500 barrels daily. Crude production, of which about 60% is in Canada and 40% in the U.S., normally is equal to more than 50% of refinery runs, the best ratio among Canadian integrated companies. Natural gas reserves, estimated to exceed four trillion cubic feet, are of particular interest. The company is a primary supplier to Trans-Canada Pipe Lines and it also will sell gas to three other lines which in 1960 received FPC approval for export to the U.S.; substantial deliveries are expected in 1962. It is a joint owner of BA-Shawinigan Ltd., a major producer of phenol and acetone, among other petrochemicals. Earnings in 1961 are estimated around $1.60 a share, up from $1.51 in 1960. The $0.25 quarterly dividend is secure. Natural gas exports to the U.S. in time could add materially to earning power. The affiliation with Gulf Oil, holder of 58% of the stock, is an element of strength. *The shares of this well-balanced unit are regarded as a promising Canadian oil and gas situation.*

Dome Mines derives the bulk of its earnings from the low-cost Campbell Red Lake Mines in which it has a 57% interest. Dome's own mine in the Porcupine district of Quebec is a marginal producer which can only make money with a subsidy from the Canadian government. The "devaluation" of the Canadian dollar should increase profits from Dome's own mine and also expand Campbell Red Lake's income, since the Canadian Mint price for gold is based on the U.S. dollar. The industry's average price in 1960 was $34 an ounce, but, with the Canadian dollar now at a discount, gold producers in effect will realize $36 an ounce. This change, while constructive, does not go far toward solving the industry's long-term price-cost squeeze. Dome's 1961 earnings should be close to last year's $1 a share and dividends should remain at $0.70. *The stock's chief appeal is as an above-average equity for those wishing to speculate on an eventual rise in the U.S. gold price.*

Exquisite Form Brassiere (Canada) Ltd. controls one-quarter of the branded brassiere market in Canada and one-eighth of the girdle market. Since 1950, the company has had the exclusive right to make and distribute in Canada all products of Exquisite Form Brassiere, Inc., of America, for which it pays 12½% of its pretax profits. The company's steady growth trend was interrupted in 1959 by difficulties in Venezuela and heavy start-up costs in Germany. However, earnings for the year ended February, 1961, recovered to an estimated $1.15 a share. Further sharp improvement is likely in 1961-62, with profits possibly reaching $1.75 a share before conversion of the preferred or $1.40 after such con-

after eleven million treatment courses*... consistently broad antibacterial action

brand of nitrofurantoin

Furadantin®

through the years...consistently broad antibacterial action against urinary tract pathogens—"It was interesting to observe that nitrofurantoin [FURADANTIN] showed a consistent in vitro effectiveness against the bacteria tested throughout the four year period, thus revealing negligible development of bacterial resistance, if any, through the years." Jolliff, C. R., et al.: Antibiot. Chemother. (Wash.) *10*:694, 1960.

*Conservative estimate based on the clinical use of FURADANTIN tablets and Oral Suspension since 1953.

rapid, safe control of infection throughout the urinary system

EATON LABORATORIES, Division of The Norwich Pharmacal Company, NORWICH, N.Y.

version. With improvement in both domestic and foreign operations likely and the strong possibility of acquisitions, profits might grow at a 15% rate beyond the current year. *The common stock offers an interesting speculative commitment.*

GREAT LAKES PAPER, a medium-sized producer of newsprint, sells virtually its total output in the U.S. Even though the recession restricted newsprint consumption in the first quarter, company shipments increased 2.5%, and, now that business activity is recovering, larger year-to-year gains are expected in the months ahead. Meanwhile, depreciation and interest charges are declining, and exchange losses which amounted to $0.24 a share in 1960 should be considerably lower. Also, common share earnings are benefiting from the absence of dividend requirements for the preferred stock, which was recently retired. Thus, earnings for the current year could reach $1 a share, up from $0.72 (adjusted) in 1960. Following the recent 3-for-1 split, dividends were increased from $0.13-1/3 (adjusted) to $0.15 quarterly. *With recovery in profits under way and the longer-range outlook continuing favorable, the shares appear to have above-average appeal.*

IMPERIAL INVESTMENT CORP. LTD., organized in 1950, has become the third largely publicly-owned consumer finance company in Canada. Together with subsidiaries, it operates 48 branch offices from coast to coast. Including the acquisition in March, 1961, of Mercantile Acceptance (consumer loan operations in California and Oregon), total assets are in excess of $160 million. Earnings for the fiscal year ended June 30, 1961, are estimated at $1.20 a Class A share, up from $1.09 in fiscal 1960. The outlook for the current year is bright, based on general economic recovery, favorable interest rates in Canada, progressive extension of financing credit into new lines, and full-year inclusion of Mercantile Acceptance. Profits could reach $1.75 a share. Dividends are $0.15 quarterly. *In view of the promising outlook for future earnings growth, the Class A stock is attractive for moderate appreciation over the intermediate and long term.*

INTERNATIONAL NICKEL—Developments in the free world market for nickel are substantially enhancing profit prospects for this producer, which supplies over 60% of industry output. Demand is again rising to a record level, and the company's new high-grade Manitoba mine is running at capacity. Several years ago, the Manitoba property was expected to contribute to a glutted nickel market, but this problem has been eliminated (for the time being at least) by the shutdown of Cuba's two large nickel mines. The favorable supply-demand relationship permitted a recent rise of 7½ cents in nickel prices (a 10% advance). Price realizations are being further enhanced by the current discount on the Canadian dollar, since well over 90% of output is exported and the foreign exchange premium of recent years reduced profits. At capacity operation, the higher prices should add $0.70 a share to the company's annual profits, with half as much again being realized by the change in the Canadian dollar. While full benefits from these changes are not being realized in 1961, earnings for the full year could still reach a record $3.50 or more a share. Another increase in the quarterly dividend, raised to $0.40 last year, is a possibility. *While not cheap, the stock is an excellent holding for participation in the long-range growth prospect for nickel.*

LOEB (M.) LTD., under a franchise from the Independent Grocers Alliance (IGA), is the wholesale supply depot for 136 affiliated IGA and 45 Much More retail food markets in parts of Ontario and Quebec. Through acquisition, the company has a number of outside interests. The latest acquisition was George Painchaud of Montreal, the largest Canadian tobacco wholesaler. The IGA is a voluntary group of independent grocers who associate themselves with a wholesaler and buy virtually all their goods from him. In addition to its basic business, the company operates five cash-and-carry wholesale food warehouses for non-IGA retailers, and two more are scheduled for 1961. It began a meat distribution center in May, 1960, for affiliated stores. It has franchises for distribution of tobacco and confectionery products and other sundry items of nationally known manufacturers. It also runs the Casselman Creamery.

new infant formula

Enfamil®

Infant formula

nearly identical to mother's milk in nutritional breadth and balance

Five years of research and 41,000 patient days of clinical trials form the background of Enfamil.

Excellent acceptance. During the crucial first 8 weeks of life and throughout the formula feeding period, babies accept Enfamil and thrive on it. As shown in a well-controlled institutional study[2] covering the early period of formula feeding, the average daily caloric intake of Enfamil was 51.4 per pound. (The normal daily requirement for young infants is 45 to 55 calories per pound.[3])

The same study[2] also showed that Enfamil produced
• good weight gains • good stool patterns

1. The Composition of Milks, Publication 254, National Academy of Sciences and National Research Council, Revised 1953. 2. Brown, G. W.; Tuholski, J. M.; Sauer, L. W.; Mimk. L. D., and Rosenstern, I.: J. Pediat. 56:391 (Mar.) 1960. 3. Watson, E. H., and Lowrey, G. H.: Growth and Development of Children, ed. 3, Chicago, The Year Book Publishers, Inc., 1958, p. 281.

Mead Johnson Laboratories

Symbol of service in medicine

Sales since 1951 have increased from $4.8 million to an estimated $83 million in 1961 and are projected at $100 million for 1962. Profits have risen from $0.04 in 1951 to the $0.90 estimated for 1961, and might be close to $1.20 in 1962. Finances are excellent, and no additional money is needed. Dividends are expected to be at a $0.30 rate in the second half. *Attracting considerable institutional interest, this stock has appeal on a long-term basis.*

OSHAWA WHOLESALE LTD. is engaged in the wholesale distribution of groceries and other items in central Ontario, including the Toronto area. The company, under IGA franchise, is the wholesale depot for 128 affiliated IGA stores. It also does business with 63 unaffiliated retailers. Some 20% of sales is derived from 14 company-owned and operated retail stores. This portion of the business is being expanded considerably. The company has also begun diversification moves that is taking it into the coin-operated laundry business. This is small to date and will have no effect on total results for some time to come. The record is excellent, with sales having grown from $10.9 million in 1951 to an estimated $60 million in 1961. Profits have risen from $0.04 in 1951 to an estimated $1.05-$1.10 in 1961. Further growth in 1962 is expected, with a continuing 15%-20% growth possible. The company exercises tight cost control, and the outlook is for further growth in IGA operations in the franchise area. Dividends of $0.30 are paid. The company is expected to list shortly on the American Stock Exchange. *This issue has appeal for long-term purpose.*

ROTHMANS OF PALL MALL CANADA, LTD., is one of a group of cigarette firms established by the Rothman Group in England. In four years, its market position in the Canadian cigarette industry has increased from nothing to over 10%. Aided by favorable population trends for cigarette smoking, the growth gives every indication of increasing. Through the tie-in with other Rothman Group companies in England, Australia, New Zealand and South Africa, the Canadian firm (50% owned by the Rothman Group) has access to marketing and research information that has made these other companies successful. Rothman's success is based partly on obtaining better results from its advertising dollar and partly on its emphasis on filter king cigarettes, which are increasing their share of the market. The Canadian budget, which proposes to lower the higher excise tax on king-size cigarettes, should be helpful in increasing the importance of kings. Rothman's operations until recently were not profitable, but, since July, 1960, the company crossed the breakeven point. A small profit will be shown for the fiscal year ended June 30, 1961; earnings for the first seven months were $0.16 a share. Profit margins should widen as the company's share of the market is expanded.

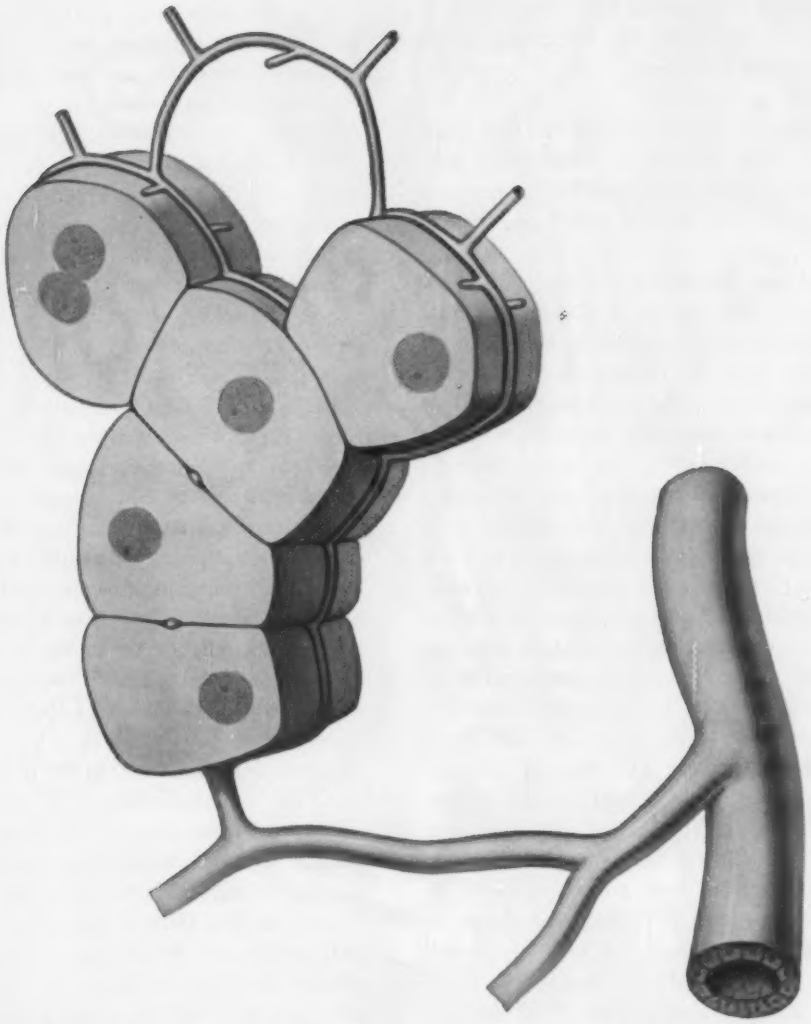
The company could well have respectable earnings by 1965. No dividends are paid. *The stock could well prove rewarding to the patient long-term investor.*

MAINTAIN HOLDINGS OF DU PONT AND GM

Both Issues Still Attractive as Long-Term Investments, Despite Uncertainties Arising from Compliance with Supreme Court Order

The U.S. Supreme Court ruled recently 4-to-3 that du Pont must dispose of its 63 million shares of General Motors common stock. The opinion overturned a decision by a Federal District Court that let du Pont satisfy the antitrust laws by keeping the shares but passing the voting rights on to du Pont shareholders.

Shortly, du Pont must present a divestiture plan to the District Court, after which the Justice Department will have 30 days to present counterproposals. After the District Court approves a plan, divestiture must begin within 90 days and be completed within 10 years. However, the District Court's plan could be appealed.



IMPROVE HEPATO-BILIARY FUNCTION AT THE CELLULAR LEVEL WITH CHOLAN-HMB®

Cholan-HMB contains chemically pure oxidized bile acid to stimulate the production of a large volume of thin bile, flush the biliary tree, improve digestion of fats, and relieve the symptoms of dyspepsia, constipation and indigestion caused by intrahepatic biliary stasis.

To counteract spasm of the biliary sphincters and relax the gallbladder, Cholan-HMB contains spasmolytic homatropine methylbromide. The mild sedative component helps to calm the tense, emotional patient with hepatobiliary dysfunction. Cholan-HMB provides physiologic and symptomatic relief of biliary stasis in primary biliary dyskinesia, pre- and postcholecystectomy syndrome, cholangitis, and digestive disturbances of pregnancy.

Cholan-HMB® — dehydrocholic acid, Maltbie, 250 mg.; 2.5 mg. homatropine methylbromide, and 8 mg. phenobarbital. 1 or 2 tablets t.i.d. after meals.

Cholan-V® — dehydrocholic acid, Maltbie, 250 mg., and 5 mg. homatropine methylbromide. 1 or 2 tablets t.i.d. after meals.

Cholan-DH® — dehydrocholic acid, Maltbie, 250 mg. 1 or 2 tablets t.i.d. after meals.

Supplied: Bottles of 100, 500, and 1,000 tablets.
Contraindication: severe hepatitis; complete obstruction of the hepatic or common bile ducts; glaucoma

Maltbie

Maltbie Laboratories Division, Wallace & Tiernan Inc., Belleville 9, New Jersey

PCN-11

A number of proposals have been made for disposal of the GM shares. Direct sale on the public market is unlikely, since it is believed that, even if spread out over 10 years, this would seriously depress the price of GM stock. In all of 1960, 7,126,000 shares of GM were traded on the New York Stock Exchange, equal to only 11.3% of the total held by du Pont.

Tax Aspect Important—A much discussed possibility is distribution of GM shares to du Pont stockholders (equivalent to 1.37 GM shares for each du Pont share). However, under present law, the distribution would be considered a dividend, and recipients would be taxed at regular income tax rates. Sales by du Pont stockholders to meet the tax burden could depress the value of both stocks.

Congress should pass legislation easing the tax impact. Current law provides that, when the Securities and Exchange Commission orders divestiture, the resulting dividend shall be tax free. Efforts are being made in Congress to have this extended to cover divestiture by court order, and both common sense and moral considerations suggest their eventual success.

In any event, du Pont and General Motors are the leaders in the chemical and automotive industries, respectively, and should continue to participate fully in their growth. Despite increased competition in plastics and fibers, du Pont's research is developing new compounds and uses which should offset this factor. Earnings in the first quarter were $1.85 a share compared with $2.10 a year earlier, but full-year profits are expected to compare favorably with the $8.09 a share of 1960. About 30% of du Pont's earnings ($2.54 a share in 1960) come from GM dividends. Barring an immediate disposal of holdings, which seems unlikely, this income will continue to accrue to du Pont but perhaps on a declining scale over a period that might extend for 10 years or more. If the final solution should be a distribution to du Pont stockholders, then the GM dividends would go directly to the latter.

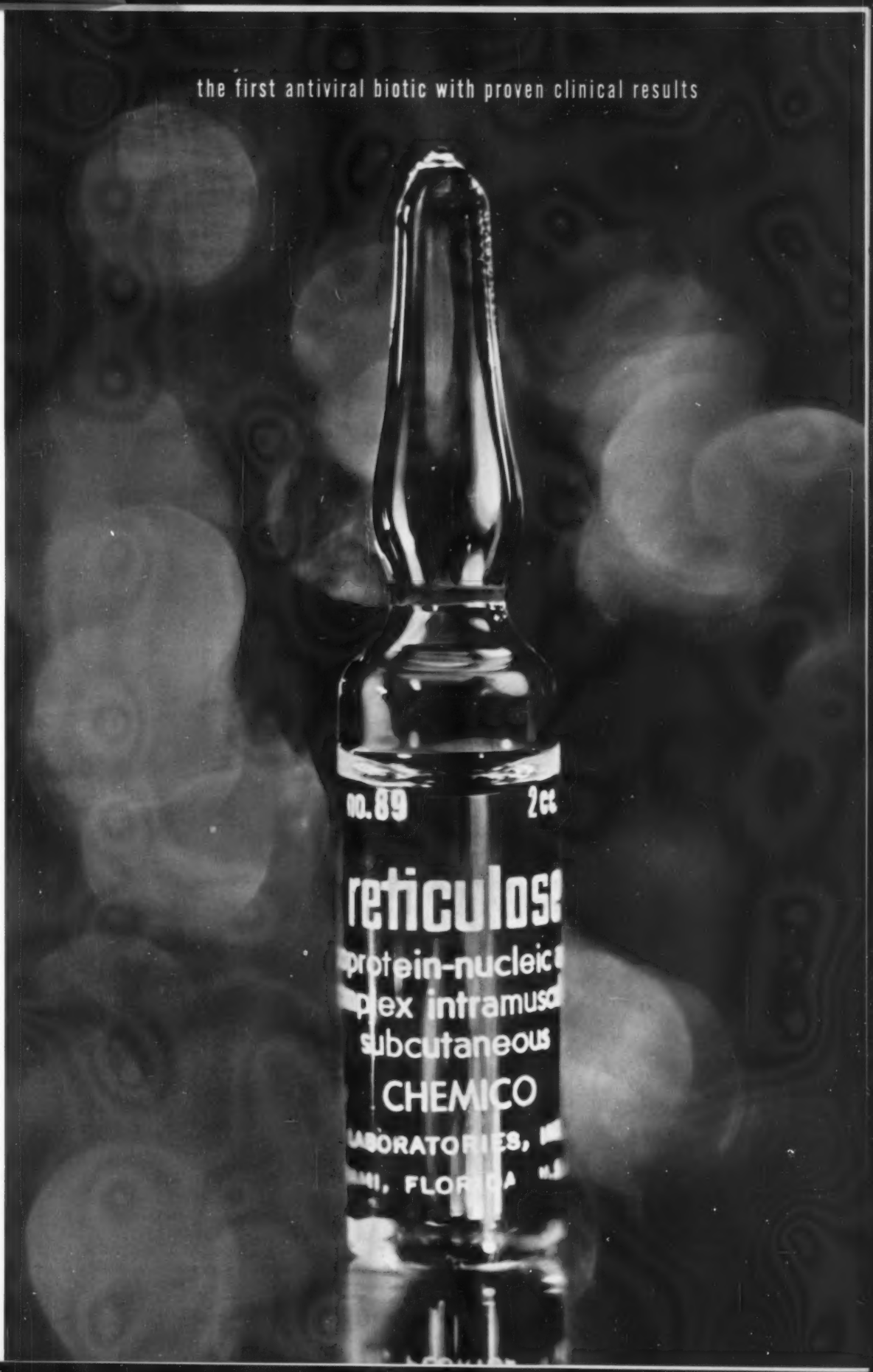
It will be difficult to appraise du Pont without its General Motors investment until the method of divestiture and the time for accomplishment are determined. In any event, even excluding GM dividends and adjusting the present price of 207 for the current market worth of 1.37 GM shares, du Pont stock is selling for about 27 times earnings, which is in line with the valuation placed on high-grade chemical equities. Despite overhanging uncertainties, therefore, we still regard du Pont as an attractive investment.

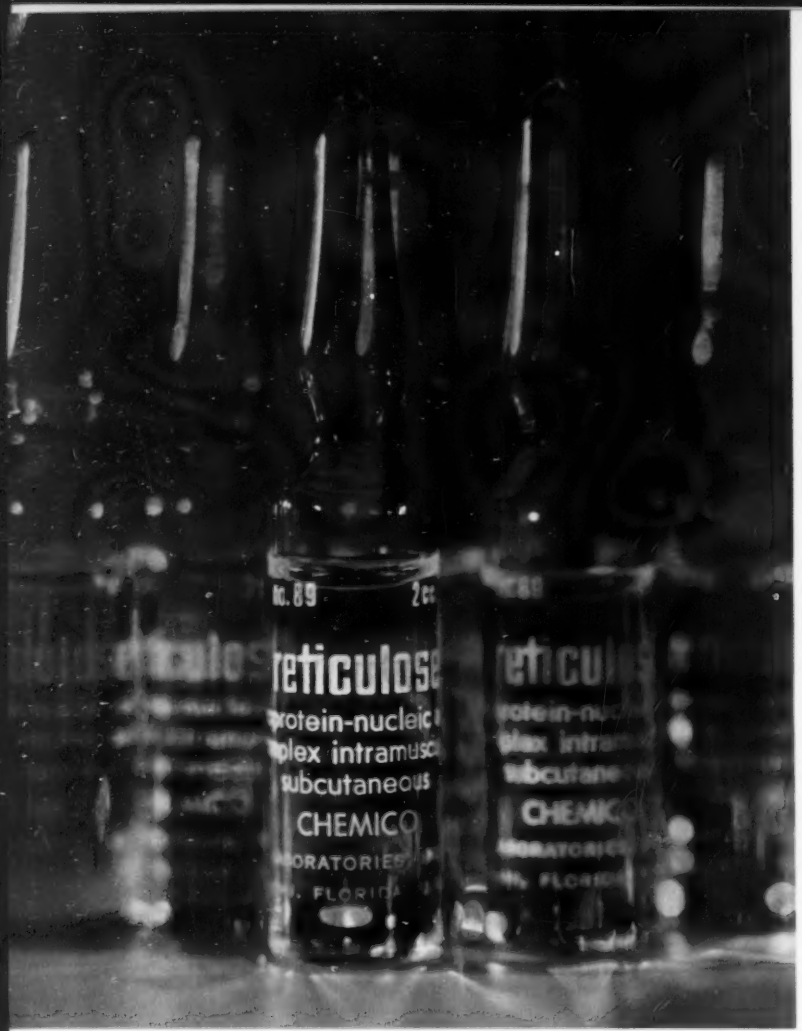
Position of General Motors—As for General Motors, it is obvious that du Pont's divestment of 63 million common shares will have no direct influence on GM's share of the automobile market, sales, or earnings. As a market factor, much depends on whether remedial tax legislation is enacted, assuming GM's stock is fully distributed to du Pont's shareholders. Without tax relief, many of the latter, particularly those in the higher income tax brackets, would sell part of their GM stock to pay the taxes.

Profits for 1961 are likely to decline to about $2.75 a share from $3.35 last year. A rebound to approximately the latter figure is possible for 1962, in view of anticipated industrywide recovery in automotive sales and the expectation that General Motors' share of the total market will be at least well maintained because of its strong position in the standard-sized car field and its growing share of the compact car market.

In our opinion, recent selling of this pre-eminent automotive stock was overdone. At a recent price of 44, it is priced at only 16 times estimated 1961 earnings to yield 4.6% from the secure $2 annual dividend, making it one of the best values among the better-grade industrials.

We believe the issue is in a buying range for those willing to take a long-term view and to ignore the immediate uncertainties created by the court ruling.


the first antiviral biotic with proven clinical results
no. 89
2cc
reticulose
protein-nucleic
plex intramus
subcutaneous
CHEMICO



reticulose®

LIPOPROTEIN–NUCLEIC ACID COMPLEX

RETICULOSE HAS BEEN REPORTED TO BE SUCCESSFUL IN THE THERAPEUTIC MANAGEMENT OF:

Herpetic diseases, 3, 5, encephalitis, 1, 2, 3, generalized vaccinia, 3, 4, infectious hepatitis, 3, influenza, Asian influenza, 3, upper respiratory viral infections, 3, infectious mononucleosis, 3, mumps orchitis, 2.

Reticulose is nontoxic, free from anaphylactogenic properties, is miscible with tissue fluids and blood sera. It is an injectable product, administered intramuscularly, supplied in 2 cc. ampoules and is extremely stable.

Dosage: *acute;* acute infection and seriously ill patient . . . one 2 cc. ampoule intramuscularly each 4 to 6 hours, reducing dosage as therapeutic response is established. *ambulatory;* in acute infection of ambulatory patient . . . one 2 cc. ampoule intramuscularly each 12 to 24 hours. *subacute;* in subacute infection . . . one 2 cc. ampoule intramuscularly daily. In children under five years of age . . . ½ ampoule is recommended according to above schedule. Contraindications: In states of hypersensitization (severe allergies, etc.). Active tuberculosis.

Bibliography: 1. Anderson, R. H., Thompson, R. M., Treatment of Viral Syndromes, Va. Med. Mo. Vol. 84-347 353, 7-57. 2. Scientific Exhibit, Va. State Medical Soc., Washington, D.C. Oct. 1957. 3. Symposium Viral Diseases, Miami, Fla. September, 1960. 4. Reynolds, R. M., Vaccinia, Archives of Pediatrics, Vol. 77 No. 10 Oct. 1960. 5. Wegryn, S. R., Marks, Jr. R. A., Baugh, J. R., Herpes Gestationis, American Journal Ob. and Gyn., Vol. 79 Apr. 1960.

Literature is available upon request.

CHEMICO LABORATORIES, INC. 7250 N.E. FOURTH AVE., MIAMI, FLORIDA

DUBLIN:
City of Contrasts

Here's a fond and witty portrait of Dublin that only a man who really knows the city could have written. And that man would have to be an Irishman, of course.

TOM CORKERY

Dublin, like Paris, is still a city where people actually live. Despite the growth of fashionable new garden suburbs, despite the subtopian sprawl that has now reached to the foothills of the Dublin mountains, there are still city grocers living over their groceries, publicans living over their pubs, doctors living over their surgeries, to keep the place warm of nights. And, of course, it is the perfect city to wake up to. Morning in Dublin is not harsh, not obtrusive. There is no rattle, no clangour, just a gentle, inviting susurration, the faintest whisper of a waking day. If sirens call they call in muted, half-hearted fashion, as though apprehensive of being prosecuted for disturbing the peace, and church bells interpolate occasional reminders that not by bread alone doth man live. So people move leisurely to work; you do not see that terrible scurrying, those preoccupied faces that come so grimly at you out of Waterloo or Charing Cross stations on a London Monday morning. People stop to greet each other, obviously not too worried whether they get to the job at all. Indeed, one suspects, quite a few do not.

Not to worry! It is the real motto of the town; the explanation of its somewhat haphazard growth, and of its survival throughout a thousand years of very worrying history. For Dublin's was not a natural birth; the Danes who established it, did so, not as the capital of Ireland, but rather as a defence against Ireland. Neither did it have a natural growth, as normal towns grow, rather did it erupt and expand at irregular intervals

anorectal comfort ...that lasts

Patients want full, fast and lasting relief from the distressing symptoms of common anorectal disorders.

For hemorrhoids, proctitis and pruritus ani, *start therapy* with ANUSOL-HC—2 suppositories daily for 3 to 6 days—to reduce inflammation, relieve pain and itching, and shorten total treatment time. *Maintain patient comfort* with regular ANUSOL—1 suppository morning and evening and after each evacuation to prevent recurrence of symptoms. Supplement with Anusol Unguent as required.

Neither Anusol nor Anusol-HC contains anesthetic agents which might mask symptoms of serious rectal pathology.

anusol® | anusol-HC®

hemorrhoidal suppositories and unguent

hemorrhoidal suppositories with hydrocortisone acetate, 10 mg.

WARNER CHILCOTT

MS 12 [illegible] MORRIS PLAINS NJ

in a series of fitful convulsions. For six centuries it stayed put on its little hill around Christ Church, while its Norman occupiers occupied themselves in merely building bigger and better walls. Then in rapid succession came Ormonde and his seventeenth-century expansion across the river; eighteenth-century Gandon, granite and Palladian, followed by Georgian red-brick; nineteenth-century factories any old place; and twentieth-century suburbs all over the place.

Because of this piecemeal progress, you cannot just walk around the town looking for its historical periods in neat, packaged acres. Gandon's works, for example, are not set out for you; they crop up at you from the most unlikely places. You look across a rather dubious river, up a dingy quayside and you experience the full majesty of the Four Courts. You turn off the desolation of North King Street into Blackhall Place, and encounter the chaste, withdrawn facade of King's Hospital (the Bluecoat School, if you're asking your way locally). You walk up the most regrettable Constitution Hill, to be suddenly greeted with the green sward and classic lines of the Kings Inns. How in heaven's name, you ask yourself, did these things ever get where they are?

There is much of Dublin that can only be sped through with the passing tribute of a sigh. But for that, the surprises, when they do come, are all the more piquant. Across the slattern wastes of Newmarket in the Liberties, rises, like some fantastic mirage, a terrace of tall, narrow, high-gabled old houses, relics of the refugee French Huguenot weavers. Further North, off High Street, a turn down the steps under St. Audoen's leaves you standing under the old walls of the Norman town. Across the river you walk through rows of red-brick artisans' dwellings, to be confronted with the Norman tower of St. Michan's (St. Mick-en, if you have to ask your way locally), where owing to some unique preservative in the air of the vaults, the bodies of long buried men are preserved. You sit in the friendly little green oasis of St. Patrick's Park, with, on one side, the lancet windows and flying buttresses of St. Pat's, Norman Gothic, and on the other, the red-brick, the curlicues, the pediments, porticos, pillars and what have you of the rococo Victorian Iveagh Trust Building. It is a contradiction to delight by its very impertinence.

Contradiction is perhaps the operative word for Dublin. Nothing leads on to what one would reasonably expect. Behind the neon glitter of O'Connell Street lie demolished tenement sites, reconditioned workers' flats, storage sheds and empty spaces. Behind Henry Street's fashionable shopping stores is a weird dying quarter, a veritable shanty town of old boots, old clothes, old bedsteads, old crones. Over the sprawling granite of Gandon's eighteenth-century Custom House, looms the towering glass and concrete of Scott's twentieth-century Bus Station; the only connection between them being that they were both planned against the wishes of the citizenry, raised to a chorus of derision from the citizenry, and completed to the ecstatic admiration of the citizenry. . . . But that is the form of the city, and the form of its citizens.

Down South

The river is Dublin's great dividing line; it separates that which belongs from that which has merely accrued. South is for the most part native. North is that which came in on the train (or boat) before last. South is a confederation of little independent, mutually exclusive enclaves, each one possessing a distinctive character of its own. You start with Inchicore, the railway man's town; beyond it sprawls the barren of twisty, hilly lanes, ancient cottages, barracks-turned-into-apartments and tinkers up-for-the-week, that form the scenery of Mount Brown and Kilmainham. Next is James's Street and hinterland, Guinness town, acres and acres of it, where rail tracks traverse cobbled streets, canal barges lie at rest in the Basin, and the air is full of brewers' smells. A few steps away and you are in the ancient Liberties of Dublin, a rugged quarter of fighting men, that stretches south to Pimlico and Newmarket.

This article was reprinted from "Ireland of the Welcomes," magazine of the Irish travel information service.

Here you will find echoes of history round every corner; memories of Swift, the Huguenot weavers and the faction fighting Liberty Boys.

But North Dublin has few of these little self-sufficient enclaves. Its Georgian has vanished or decayed; its once famous low-life quarter of 'Monto' has been levelled. One quarter just seems to flow into another quarter, and everything finally flows into O'Connell Street, where the big cinemas, the chrome and juke-box cafes, the neon, the ice cream salons, and the crowded pavements, make everybody somebody, but no one anybody.

Strictly Big Town

There are exceptions, of course. Parnell Square at night, with its dance halls, its ceilidhe halls, its committee rooms, lecture rooms, its cellars where brass bands tootle and practise, its serious trade union men gathering outside their various headquarters, does have a pulse of its own. Smithfield still carries a faint, dying smell of horses and hay. The fifteen acres in the Phoenix Park, where hundreds of small, wind-swept football pitches stretch to the horizon, and thousands of amateur sportsmen play cricket, hurling, football, polo, pontoon, pitch and toss, is a sight which in these days of professional players, big stadia, and sedentary sportsmen, may claim to be almost a phenomenon. But apart from these, North Dublin is strictly Big Town with its Main Street, and no social distinctions.

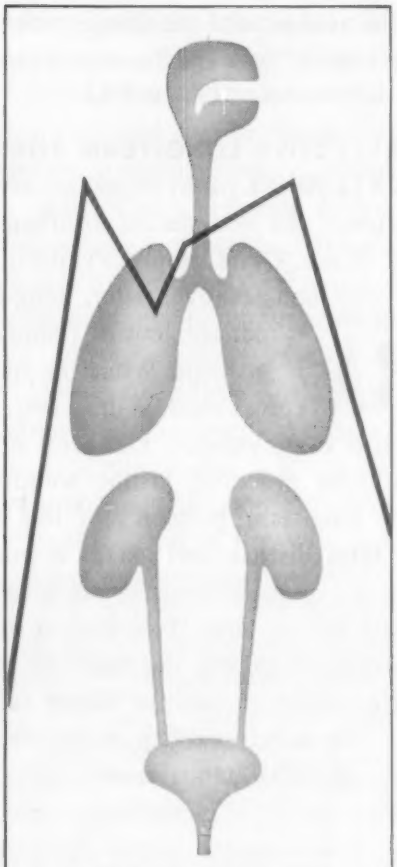
Not indeed that there is any real snobbery in Dublin, where social life is based on the assumption that all men are equal. But South of the river there are distinctions, and a true Inchicore man would feel as uneasy in a Duke Street pub as would a Fitzwilliam man in Inchicore. Still, even if the racecourse tout or thimble rigger from Ash Street can flash a thicker roll than the Espresso-bar intellectual from Anne Street, or the rate-burdened resident of Ailesbury Road, he does not necessarily cut the poor devils on that account. The town is too small for that kind of carry on.

It is said (mostly by Dubliners) that you get better talk in a Dublin pub than anywhere else in the world. You certainly get more of it. There are pubs in Dublin for every occasion. There are big pubs where everybody minds his own business and small pubs where everybody minds your business. There are pubs for eating in, pubs for talking in, pubs for fighting in, pubs for playing darts in, pubs for singing in and a few pubs for drinking in. These last are known as 'pint houses.' In them the pint of stout is king, and is drawn with such a to-do and such ceremony that it is customary to order one, go for a ten-minute walk, and come back to find that the curate is still lavishing his attentions on it. They are patronized by solid, silent, knowing men, and are run, I firmly believe, not by publicans, but by philanthropists; not for profit (for who can profit at a rate of ten minutes to pull one pint), but rather for pleasure, and as an example of civilized drinking.

The Dublin social is very varied. It goes on all the year round and ranges from art exhibitions to horse racing, via medical and scientific congresses. It is not to say, of course, that these grave and learned conventions of the arts and sciences are designed by their organizers as social binges; it is only that, owing to something in the air of the place, they invariably end up that way. Distinguished savants come from all over the world to discuss matters of grave import, and invariably

" . . . and stop signing my letters 'Frankie'."

Efficacy and Economy in Sulfa Therapy



High Tissue and Blood Levels

High blood levels produce antibacterial activity in deep tissue at the focus of infections. SULFOSE contains three independently soluble sulfonamides to help protect against crystalluria.

- SULFOSE is especially effective in urinary tract and upper respiratory infections
- Bacteria resistant to antibiotics may respond to SULFOSE
- SULFOSE causes fewer complications such as diarrhea, gastric upset, superinfections
- SULFOSE permits reserving the antibiotics for severe, fulminating infections
- SULFOSE is economical

SUSPENSION TABLETS

SULFOSE®

Triple Sulfonamides, Wyeth
(Trisulfapyridimines: Sulfadiazine, Sulfamerazine, Sulfamethazine)

For further information on limitations, administration, and prescribing of SULFOSE, see descriptive literature or current Direction Circular.

Wyeth Laboratories Philadelphia 1, Pa.

Wyeth® SERVICE TO MEDICINE

in rheumatoid arthritis

IS THIS THE ERA OF STEROID DISENCHANTMENT?

STEROIDS: FAR FROM ROUTINE THERAPY IN RHEUMATOID ARTHRITIS. "... it would now appear that the steroids should be employed infrequently in rheumatoid arthritis, and, when used, long-continued therapy should be avoided and the dosage reduced to the lowest possible level." [New and Nonofficial Drugs 1961, Philadelphia, J. B. Lippincott Co., 1961, p. 598.]

PLAQUENIL: EFFECTIVE LONG-TERM THERAPY THAT SPARES STEROIDS. Many physicians are now evaluating Plaquenil, the non-steroid antirheumatic of choice. Quite simply, Plaquenil provides conservative, safer, long-range management of rheumatoid arthritis. While the steroids often result in dramatic short-term improvement, Plaquenil affords a more practical, lasting solution to the long-term problems of this long-term disease, and makes it possible to utilize steroids sparingly. □ This is how: Full steroid dosage may be necessary only during the "latent" period of Plaquenil's cumulative action. Since two to four weeks may elapse before Plaquenil-treated patients experience subjective improvement, and six to twelve weeks before objective benefits are noted, it is advisable to maintain adequate steroid dosage when indicated—but only when indicated—during this time. Thereafter, as Plaquenil exerts greater therapeutic effects, steroid dosage may be reduced gradually. Salicylates too may be withdrawn as the need for adjunctive analgesia is diminished. □ The rheumatoid arthritic patient is then continued on Plaquenil; generally, no additional medication is required. Once improvement has been achieved, it can usually be maintained, since Plaquenil is the best tolerated of the 4-aminoquinoline compounds used in rheumatoid arthritis.

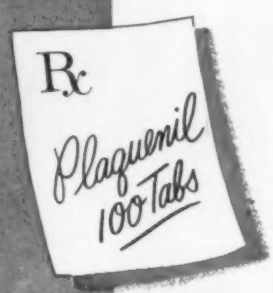
MAJOR IMPROVEMENT IN 60 TO 83 PER CENT OF PATIENTS. Clinical experience has shown that after six to twelve months of continuous administration, Plaquenil causes major improvement in 60 to 83 per cent of patients: subsidence of the active inflammatory process, diminution of joint effusion, slow fall in sedimentation rate, gradual rise in hemoglobin, relief of pain and tenderness, increased mobility, improvement in muscle strength, increase in finger dexterity, improvement in flexion deformities, diminution or disappearance of swellings and rheumatic nodules. There is a low incidence of major relapse following attainment of maximum improvement. □ Plaquenil sulfate, 200 mg. tablets. Initial dose: 2 or 3 tablets daily. Maintenance dose: 1 or 2 tablets daily. Write for booklet containing complete clinical experience, side effects, precautions, etc. □ When the patient also requires analgesia, Plaquenil with aspirin is available as Planolar (Plaquenil 60 mg. with aspirin 300 mg.).

SUMMARY OF PLAQUENIL ADVANTAGES:

PLAQUENIL
- . . . is not a steroid
- . . . provides conservative therapy
- . . . affords lasting benefits
- . . . spares steroids
- . . . is generally well tolerated

PLAQUENIL
- . . . acts cumulatively
- . . . reduces need for steroids
- . . . reduces need for analgesics
- . . . works in conjunction with both steroids and aspirin

PLAQUENIL
- . . . produces major improvement in 60 to 83 per cent of patients
- . . . results in a low incidence of major relapse



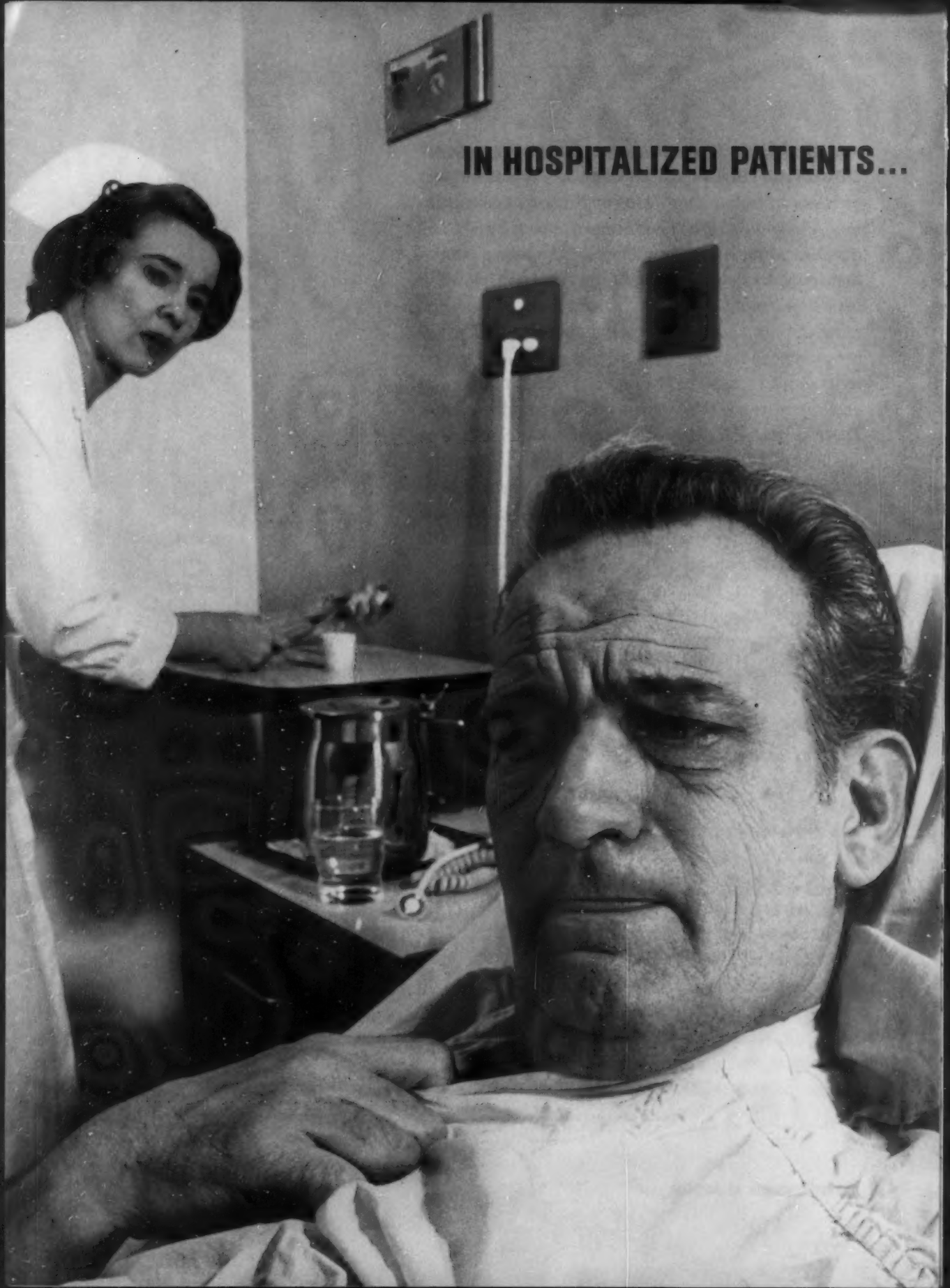
Plaquenil®

SULFATE

NON-STEROID ANTIRHEUMATIC FOR SAFE, LONG-TERM THERAPY

Winthrop LABORATORIES
New York 18, N. Y.

Plaquenil (brand of hydroxychloroquine), trademark reg. U. S. Pat. Off. Planolar, trademark.

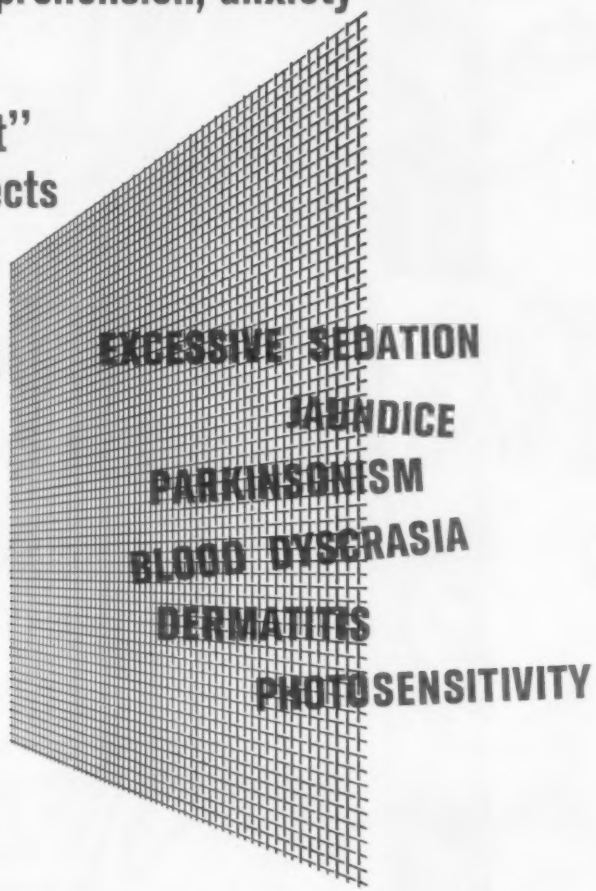

IN HOSPITALIZED PATIENTS...

Mellaril®

THIORIDAZINE HCl

provides highly effective tranquilization, relieves agitation, apprehension, anxiety

and "screens out" certain side effects of tranquilizers, making it virtually free of:



"The value of the phenothiazines as tranquilizers has been established. [However] many distressing side effects have been reported with these drugs.... Thioridazine [Mellaril] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines."[1]

In Agitated Medical/Surgical Patients — "A new phenothiazine derivative, thioridazine [Mellaril], was used to treat 71 patients, most of whom were unduly agitated and disturbed due to hospitalization for medical or surgical conditions.... The response to treatment was considered satisfactory in 83.4 per cent of patients.... In agreement with the published results of other investigators, we believe that thioridazine shows a greater specificity of tranquilizing action and freedom from serious toxic effects when compared with some of the other phenothiazines."[2]

Mellaril is indicated for varying degrees of agitation, apprehension, and anxiety in both ambulatory and hospitalized patients.

Usual starting dose: Non-psychotic patients – 10 or 25 mg. t.i.d.; Psychotic patients – 100 mg. t.i.d. Dosage must be individually adjusted until optimal response. Maximum recommended dosage: 800 mg. daily. Supply: Mellaril Tablets, 10 mg., 25 mg., 50 mg., 100 mg.

1. Ostfeld, A. M.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959. 2. David, N. A.; Logan, N. D., and Porter, G. A.: Evaluation of Thioridazine (Mellaril), a New Phenothiazine, in The Hospitalized Patient, A.M. & C.T. 7:364 (June) 1960.

ORIGINAL RESEARCH SERVING THE PHYSICIAN

SANDOZ

TOPICAL STEROID NEWS: BREAKTHROUGH IN THERAPY

In steroid responsive dermatoses you may prescribe new Panzalone Cream for rapid healing without concern about side effects and cost-to-patient, even when used on extensive areas for prolonged periods.

2% CREAM

PANZALONE T.M.

delta-5-hemisuccinoxypregnenolone*, DOAK

BREAKTHROUGH IN THERAPY

because the 2% concentration of Panzalone Cream helps assure quick relief of symptoms and more rapid healing of lesions,

because Panzalone is a new and fundamentally different steroid for topical application; it is non-corticoid and thus cannot produce corticoid side effects and

because cost-to-patient of an Rx for Panzalone Cream, reflecting the economies in synthesis of this new steroid, will be less than ½ the average for comparable topical steroid creams.

Panzalone Cream is applied 3-4 times a day, supplied as 15 Gram (½ oz.) tubes. Each gram of water washable cream contains 20 mg. of delta-5-hemisuccinoxypregnenolone (Δ^5-pregnen-3(β)-hemisuccinoxy-20-one), DOAK with Buro-Sol®, DOAK (equivalent to 3.38 mg. aluminum acetate), pH 5.5. Distributed in Canada by Trans-Canada Pharmacal Co., Montreal, P. Q.

*PATENT PENDING

DOAK Pharmacal Co., Inc., New York 16, N.Y.

pain and anxiety go hand in hand

Relieve <u>both</u> arthritic symptoms with Equagesic

EQUAGESIC not only relieves the arthritic patient's pain and reduces inflammation, but also improves his outlook by controlling the anxiety that magnifies pain. The muscle-relaxant action of EQUAGESIC often allows improved mobility of limbs, thus preventing disabling atrophy and wasting of muscle.

EQUAGESIC will relieve pain, muscle spasm, and tension in a variety of musculoskeletal disorders. Analgesic action is potent, yet non-narcotic. Antianxiety, anti-inflammatory, and muscle-relaxant actions are prompt and reliable.

Wyeth Laboratories Philadelphia 1, Pa.

TABLETS **Equagesic®**

Wyeth® SERVICE TO MEDICINE

EQUANIL® (Meprobamate, Wyeth) and ZACTIRIN® (Ethoheptazine Citrate with Acetylsalicylic Acid, Wyeth)

For further information on limitations, administration and prescribing of EQUAGESIC, see descriptive literature or current Direction Circular.

end up doing bus tours of the Wicklow Mountains. And for all her visitors, the city changes her face; high-spirited in an aristocratic way for Horse Show Week; jovial in a robust manner for returning American Gaels and G.A.A. finals; hail-fellow-well-met for the Rugby internationals; crombie and suede clad for the horse racing; long-haired and longer-winded for the Music and Theatre Festivals.

You are quite likely to meet anyone you know at Dublin festivals. Anyone, that is, except the Dublin man. For the Dublin man does not go to Rugger; he does not go to Ballsbridge Horse Show; he does not go up Nelson's Pillar or down St. Michan's, and he does his racing in the bookmakers' offices. The festivals of his town pass the Dublin man by, but they do not even rub off him. Narking at Dalymount Park soccer matches on Sunday afternoon; narking with policemen in Francis Street on Friday nights; narking with his wife on Sunday mornings, the Dublin man goes his own way in his own quarter. His city is run by men from the south; his finances by men from the north; his multiple stores by men from God knows where. Blandly, ironically, the Dublin man views his masters and his festivals, his nose in the air, his back propping up his street corner; the only real stranger in the strange city that has grown up around him.

To Our Readers:

Do you have a personal travel story which you think may be of interest to other MEDICAL TIMES *physicians? Perhaps in the past few years you went on an especially interesting fishing trip, took a motor tour around the country, vacationed in Mexico or some other picturesque corner of the world. If you would like to share your travel experience with other readers of this journal, just send us a brief outline of your story before you tackle the article. Write to:*

TRAVEL EDITOR, MEDICAL TIMES,
1447 Northern Blvd., Manhasset, N. Y.

A SAVINGS ACCOUNT HELPS PROVIDE A SECURE FUTURE

ELDEC®

mineral-vitamin-hormone formula

KAPSEALS®

HELP PROVIDE A HEALTHY ONE

by supplying a dependable source of vitamins, minerals, hormones, and digestive enzymes.

- vitamins to help maintain cellular function and to prevent and correct vitamin deficiencies
- digestive enzymes to aid in offsetting decreased natural production
- gonadal hormones to stimulate metabolism and help prevent or correct protein depletion states

Each ELDEC Kapseal contains vitamins—1,667 units A, 0.67 mg. B_1 mononitrate, 0.67 mg. B_2, 0.5 mg. pyridoxine hydrochloride, 0.033 N. F. Unit (Oral) B_{12} with intrinsic factor concentrate, 0.1 mg. folic acid, 33.3 mg. C, 16.7 mg. nicotinamide, 10 mg. *dl*-panthenol, 6.67 mg. choline bitartrate; minerals—16.7 mg. ferrous sulfate (exsiccated), 0.05 mg. iodine (as potassium iodide), 66.7 mg. calcium carbonate; digestive enzymes—20 mg. Taka-Diastase® (Aspergillus oryzae enzymes), 133.3 mg. pancreatin; amino acids—66.7 mg. *l*-lysine monohydrochloride, 16.7 mg. *dl*-methionine; gonadal hormones—1.67 mg. methyltestosterone, 0.167 mg. Theelin.

Indications: To supplement other sources of vitamins, minerals, hormones, digestive enzymes, and amino acids.

Dosage: One Kapseal three times daily before meals. Female patients should follow each 21-day course with a 7-day rest interval.

Precaution: Contraindicated in patients wherein estrogen or androgen therapy should not be used, as in carcinoma of the breast, genital tract, or prostate, and in patients with a familial tendency to these types of malignancy; give cautiously to females who tend to develop excessive hair growth or other signs of masculinization.

Packaging: ELDEC Kapseals are available in bottles of 100.

62761

PARKE-DAVIS

PARKE, DAVIS & COMPANY, Detroit 32, Michigan

Calendar of Meetings

A listing of important national and international medical conferences

AUGUST

Stockholm, Sweden. International Pharmacological Meeting, Aug. 22-25. *Contact:* A. Wretlind, Karolinska Institutet, Stockholm 60, Sweden.

Vienna, Austria. International Congress on Mental Retardation, Aug. 14-19. *Contact:* Dr. K. Kundratitz, Universitats-Kinderklinik, Vienna, Austria.

Jerusalem, Israel. World Assembly, Israel Medical Association, Aug. 14-25. *Contact:* Dr. Leo Schindet, 20, Metudela St., Jerusalem, Israel.

Honolulu, Hawaii. Pacific Science Association, Aug. 21-Sept. 6. *Contact:* Secretary-General Tenth Pacific Science Congress, Bishop Museum, Honolulu 17.

Paris, France. International Congress of Group Psychotherapy, Aug. 27-29. *Contact:* Dr. Wellman Warner, P.O. Box 819, Grand Central Station, New York 17, N. Y.

Vienna, Austria. International Congress of Psychotherapy, Aug. 21-26. *Contact:* Dr. W. Spiel, Lazarettg. 14, Vienna 9, Austria.

SEPTEMBER

Dublin, Ireland. International Cardiovascular Society Congress, Sept. 7-9, *Contact:* Dr. H. Halmovici, 715 Park Ave., New York 21, N. Y.

Munich, Germany. International Congress of Neuropathology, Sept. 4-7. *Contact:* Dr. Webb Haymaker, Armed Forces Institute of Pathology, Walter Reed Army Medical Center, Washington 25, D. C.

Rome, Italy. International Congress on Rheumatology, Sept. 3-7. *Contact:* Prof. Camillo Benso Ballabio, Clinica Medica Generale, Via F., Sforza 35, Milan, Italy.

Augsburg, Germany. Postgraduate Congress of Practical Medicine, Sept. 22-24. *Contact:* Prof. Schretzenmayr, 19 Schaezlerstrasse, Augsburg, Germany.

Vienna, Austria. World Congress of Gynecology and Obstetrics, Sept. 3-9. *Contact:* Prof. Tassilo Antoine, c/o Universitat-Frauenklinik, I, Spitalgasse 23, Vienna 9, Austria.

São Paulo, Brazil. Inter-American Congress of Radiology, Sept. 3-10. *Contact:* Dr. Walter Bomfim-Pontes, Rua Cesario Motta, No. 112, São Paulo.

Rome, Italy. International Neurological Congress, Sept. 10-15. *Contact:* Giovanni Alema, Secretary General of the 7th International Neurological Congress, Viale Universita, 30, Rome.

Rome, Italy. International League Against Epilepsy, Sept. 10. *Contact:* Dr. R. Vizioli, Viale dell Universita, 30, Rome.

Toronto, Canada. International Tuberculosis Conference, Sept. 10-14, *Contact:* Dr. C. W. L. Jeanes, 265 Elgin St., Ottawa 4, Canada.

Rio de Janeiro, Brazil. World Medical Association, Sept. 15-20. *Contact:* Dr. Heinz Lord, 10 Columbus Circle, New York 19, N. Y.

Washington, D. C. International Congress of Dermatology, Sept. 9-14. *Contact:* Dr. Clarence S. Livingood, Henry Ford Hospital, Detroit 2, Mich.

Paris, France. International Congress on Psychosomatic Medicine, Sept. 12-15. *Contact:* Dr. L. Chertok, c/o Societe Francaise de Medecine Psychosomatique, 54 av. de la Republique, Villejuif (Seine), Paris, France.

Naples, Italy. International Symposium on Chemotherapy, Sept. 14-17. *Contact:* Prof. P. Preziosi, Casella postale 266, Naples, Italy.

OCTOBER

Cleveland, Ohio. Society for Clinical and Experimental Hypnosis, October 4, 5, 6. *Contact:* Dr. Dezso Levendula, 10900 Carnegie Ave., Cleveland 6, Ohio.

New York, N. Y. International Congress of Allergology, Oct. 15-20. *Contact:* Dr. William B. Sherman, 60 East 58th St., New York 22, N. Y.

Geneva, Switzerland. International Congress on Therapeutics, October 6-8. *Contact:* Dr. P. Rentchnick, Case Postale 229, Geneva, Switzerland.

Lago Maggiore, Italy. Italian Society of Gastroenterology, Oct. 2-3. *Contact:* Prof. A. Gasbarrini, Via Murri 3, Bologna, Italy.

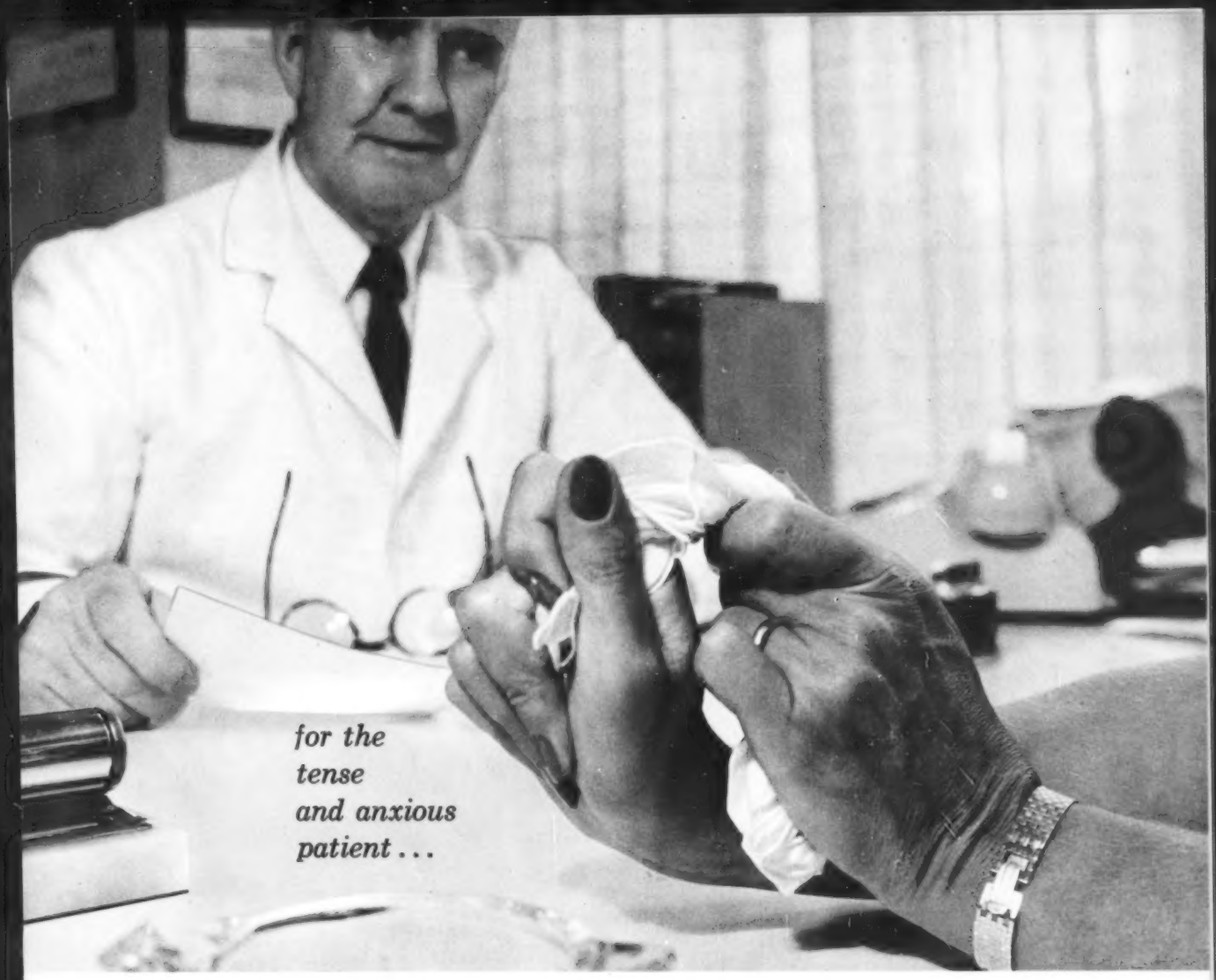
Niagara Falls, Ontario, Canada. Canadian Society for the Study of Fertility, Oct. 27-28. *Contact:* Dr. George H. Arronet, Infertility Centre, Royal Victoria Hospital, Montreal, Canada.

NOVEMBER

San Francisco, Cal. International College of Surgeons, Western Regional Meeting, Nov. 19-22. *Contact:* Dr. Walter F. James, 1516 Lake Shore Dr., Chicago 10.

DECEMBER

Nassau, Bahamas. Bahamas Surgical Conference, Dec. 27-Jan. 6. *Contact:* Mr. Irvin M. Wechsler, P.O. Box 1454, Nassau, Bahamas.



a sustained-release tranquilizer that does not cause autonomic side reactions

- **WELL TOLERATED, CONTINUOUS RELIEF** of anxiety and tension for 12 hours with just one capsule — without causing autonomic side reactions and with little or no impairment of mental acuity, motor control or normal behavior.
- **ECONOMICAL** for the patient — daily cost is only a dime or so more than for barbiturates.

Meprospan®-400

400 mg. meprobamate (Miltown®) sustained-release capsules

Usual dosage: One capsule at breakfast lasts all day; one capsule with evening meal lasts all night.

Available: *Meprospan-400*, each blue-topped capsule contains 400 mg. Miltown (meprobamate).
Meprospan-200, each yellow-topped capsule contains 200 mg. Miltown (meprobamate). Both potencies in bottles of 30.

WALLACE LABORATORIES / *Cranbury, N. J.*

CME-4199

Clinically Proven

in more than 750 published clinical studies
and over six years of clinical use

for the tense and nervous patient

Miltown is a ***known*** drug and a dependable friend. Its few side effects have been fully reported. ***There are no surprises in store for either the patient or the physician.*** This is why, despite the appearance of "new and different" tranquilizers, meprobamate (Miltown) is prescribed more often than any other tranquilizer in the world.

CM-4987

Outstandingly Safe and Effective

1 simple dosage schedule relieves anxiety dependably — without the unknown dangers of "new and different" drugs

2 does not produce ataxia, stimulate the appetite or alter sexual function

3 no cumulative effects in long-term therapy

4 does not produce depression, Parkinson-like symptoms, jaundice or agranulocytosis

5 does not muddle the mind or affect normal behavior

Miltown®

meprobamate (Wallace)

Usual dosage: One or two 400 mg. tablets t.i.d.
Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets; bottles of 50. Also as MEPROTABS*— 400 mg. *unmarked,* coated tablets; and in *sustained-release* capsules as MEPROSPAN®-400 and MEPROSPAN®-200 (containing respectively 400 mg. and 200 mg. meprobamate).

*TRADE-MARK

CM-4903

WALLACE LABORATORIES / *Cranbury, N. J.*

MODERN THERAPEUTICS

New therapies and significant clinical investigations abstracted from other journals.

"Snowman" Heart

Total anomalous pulmonary venous connection is a rare disorder, first observed in 1798. Some prominent clinical features are retarded growth, exertional dyspnea and fatigue, occasional cyanosis, right ventricular hypertrophy, and eventual cardiac decompensation. Early diagnosis, based chiefly on the recognition of the "snowman" cardiomediastinal configuration in the routine posteroanterior roentgenogram, is important, because, although many patients die in infancy and childhood, the development of new surgical techniques with use of extracorporeal circulation and hypothermia has permitted the successful correction of this disorder in some cases.

RICKARD L. GOLDNER, M.D.
and CHARLES A. BERTRAND, M.D.
J.A.M.A. (1960), Vol. 173, No. 10, Pp. 1102-1105

Serum Alkaline Phosphatase Activity

1. Of seventy-three hospitalized patients with infectious mononucleosis in whom liver function tests were carried out, 87.7 percent had elevations of serum alkaline phosphatase activity. These elevations were marked in 13.7 percent of the patients.

2. In general, the illness was slightly more severe in patients with marked elevation of serum alkaline phosphatase activity.

3. The data indicate a correlation between the occurrence of hyperglobulinemia and moderate or marked elevations of serum alkaline phosphatase activity in infectious mononucleosis, as well as a correlation between the latter and the degree of leukocytosis observed.

4. The cause of elevation of serum alkaline phosphatase activity in infectious mononucleosis is not clear, but it probably does not relate exclusively to obstructive interference with hepatic excretion of the enzyme.

JEREMIAH A. BARONDESS, M.D.
and HENRY ERLE, M.D.
The Am. J. of Med. (1960), Vol. 29, No. 1, Pp. 43-54

Ventricular Fibrillation During Left Atrial Puncture

The case of a patient with mitral stenosis who developed ventricular fibrillation at left atrial puncture is reported. Immediate thoracotomy and cardiac resuscitation were followed by mitral valvotomy; the patient has recovered completely. The crucial importance of relieving a stenotic lesion when cardiac arrest occurs is stressed. The postoperative care is described. Difficulties in the interpretation of withdrawal records obtained in this case are discussed.

The risks of left atrial puncture are reviewed, and complications observed in three other patients (cerebral and renal embolism in one and pulmonary consolidation in two) briefly described.

C. BISHOP, M.B., M. HONEY, M.D.,
and D. G. TAYLOR, M.B.
The Brit. Med. J. (1960) No. 5193, Pp. 191-195

Continued on page 154a

Take an "inside look" at a remarkable advance in topical steroid therapy

The unique base, Veriderm, combined with the outstanding anti-inflammatory steroid, Medrol, provides effective treatment of dermatoses.

Veriderm Medrol Acetate consists of Veriderm, a base closely approximating the composition of normal skin lipids, and Medrol Acetate, the highly effective, dependable corticoid.

Topical use of Veriderm Medrol Acetate produces symptomatic relief and objective improvement of dermatoses, and at the same time aids in correcting dry skin conditions. Veriderm Medrol Acetate, less greasy than an ointment and less drying than a lotion, is indicated in atopic, contact, or seborrheic dermatitis, and in neurodermatitis, anogenital pruritus, and allergic dermatoses.

Available in four formulations: Veriderm Medrol Acetate 0.25% — Each gram contains: Medrol (methylprednisolone) Acetate 2.5 mg.; Methylparaben 4 mg.; Butyl-p-hydroxybenzoate 3 mg.; in a skin lipid base composed of saturated and unsaturated free fatty acids; triglycerol and other esters of fatty acids; saturated and unsaturated hydrocarbons; free cholesterol; high-molecular-weight alcohol; with water and aromatics. (Veriderm Medrol Acetate 1% is also available.)

For prophylaxis against secondary infection: Veriderm Neo-Medrol Acetate 0.25% — Each gram contains: Medrol (methylprednisolone) Acetate 2.5 mg.; Neomycin Sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); Methylparaben 4 mg.; Butyl-p-hydroxybenzoate 3 mg.; in a skin lipid base composed of saturated and unsaturated free fatty acids; triglycerol and other esters of fatty acids; saturated and unsaturated hydrocarbons; free cholesterol; high-molecular-weight alcohol; with water and aromatics. (Veriderm Neo-Medrol Acetate 1% is also available.)

Administration: After careful cleansing of the affected skin to minimize the possibility of introducing infection, a small amount of either Veriderm Medrol Acetate or Neo-Medrol Acetate is applied and rubbed gently into the involved areas. Application should be made initially one to three times daily. Once control is achieved — usually within a few hours — the frequency of application should be reduced to the minimum necessary to avoid relapses. The 1% preparation is recommended for beginning treatment and the 0.25% preparation for maintenance therapy.

Contraindications: Local application of Veriderm Medrol Acetate or Neo-Medrol Acetate is contraindicated in tuberculosis of the skin and in other cutaneous infections for which an effective antibiotic or chemotherapeutic agent is not available for simultaneous application.

These preparations are usually well tolerated. However, if signs of irritation or sensitivity should develop, application should be discontinued. If bacterial infection should develop during the course of therapy, appropriate local or systemic antibiotic therapy should be instituted.

Supplied in 5 Gm. and 20 Gm. tubes.

Veriderm™

Medrol®
Acetate

Neo-Medrol®
Acetate

®TRADEMARK, REG. U. S. PAT. OFF.

Upjohn

The Upjohn Company, Kalamazoo, Michigan

Coming next month . . .

- *The Quality and Cost of Community Medical Care*

  By George Baehr, M. D., Consultant, Mt. Sinai Hospital, New York, New York.

- *The Third Party in Medicine—Prospects in Voluntary Health Insurance*

  By Gerald D. Dorman, M.D., Second Vice President, New York Life Insurance Company, New York.

- *Benign and Malignant Tumors of the Skin*

  By Alfred W. Kopf, M.D., New York, New York.

- *The Use of Caesarean Section in a Community Hospital*

  By Hermann A. Ziel, Jr., M.D., Chief, Obstetrics and Gynecology, Hazard Memorial Hospital, Miners Memorial Hospital Association, Hazard, Kentucky.

- *Cardiac Disorder: Industry and Recoupment*

  By Irving I. Lasky, M.D., Beverly Hills, California.

- *Neurons, Chemistry, and Neurosis: Some Current Concepts of Psycho-Chemistry*

  By Murray J. Miller, M.D., John H. Nodine, M.D., Associate Professor of Medicine, and Howard T. Fiedler, M.D., Hahnemann Medical College and Hospital, Philadelphia, Pennsylvania.

- *Social Science and Contemporary Medicine*

  By Norman C. Hawkins, M.D., Associate Professor of Sociology, Pennsylvania State University, University Park, Pennsylvania.

- *Allergic Involvement of the Upper Respiratory Tract*

  By Donald H. Walker, M.D., Sharon, Pennsylvania.

Renal Failure Secondary to Ethylene Glycol Intoxication

The case of ethylene glycol intoxication reported was characterized initially by central nervous system signs and later by acute renal insufficiency. The patient died after supportive therapy and two dialyses. It is suggested that ethylene glycol itself is responsible for the acute renal insufficiency. When oxalate is concentrated within the renal tubular cell, it possibly binds some essential intracellular divalent cation, leading to tubular degeneration.

ROBERT I. LEVY, M.D.

J.A.M.A. (1960) Vol. 173, No. 11, Pp. 1210-1213

Staphylococcic Enterocolitis

We want to emphasize that the publication of this report of light as well as fatal cases of staphylococcic enterocolitis in surgical patients after intravenous treatment with N-(pyrrolidinomethyl) tetracycline (Reverin®/Germany/, Syntetrin®/U.S.A./)is not intended to discourage the use of this remarkable drug, which undoubtedly possesses many advantages and which has proved these to the satisfaction of other authors and ourselves, We are obliged to make clear, however, that—at least as far as patients recently operated on are concerned—the assumption that N-(pyrrolidinomethyl) tetracycline does not derange the intestinal flora and carries no appreciable risk of the occurrence of staphylococcic enterocolitis cannot be considered valid and that, therefore, patients thus treated must be watched just as closely for this complication as those receiving any other tetracycline derivative. Finally, the threat of lethal superinfection defying every form of therapy once again proves that no antibiotic should ever be administered in the absence of sufficient indications for its use.

PER LUNDSGAARD-HANSEN, M.D., ALBERT SENN, M.D., BEAT ROOS, M.D. and URS WALLER, M.D.

J.A.M.A. (1960), Vol. 173, No. 9, Pp. 1008-1013

Continued on page 158a

✓ from mental confusion to the right frame of mind

✓ continuous, 24-hour cerebral oxygenation for the aging patient. By stimulating respiratory and circulatory function, GERONIAZOL TT* relieves mental confusion, depression, anxiety, and emotional instability—frequent problems in patients after forty—due to presenile changes in the vasculature of the brain. Notable benefit usually is seen within one to three weeks of therapy. It improves appetite, sleep pattern, and outlook—and GERONIAZOL TT* is non-hypertensive, non-excitatory.

Neither a tranquilizer nor a psychic energizer, GERONIAZOL TT* provides a physiologic stimulation of the cerebrum to permit the patient to adjust to his surroundings, become part of life itself again—and *attain the right frame of mind.*

References: 1. Curran, T. R., and Phelps, D. K.: Am. Pract. & Dig. Treat. *11:* 617, 1960. 2. Levy, S.: J.A.M.A. *153:* 1260, 1953. 3. Connolly, R.: W. Va. Med. J. *56:* 263, 1960.

Each TEMPOTROL contains: Pentylenetetrazol, 300 mg.; and Nicotinic Acid, 150 mg.

Indications: Respiratory and circulatory stimulant for the aged and debilitated with symptoms of mental confusion, depression, anxiety or arteriosclerotic psychosis.

Contraindications: None known in recommended dosage.

Dosage: One GERONIAZOL TT* tablet, b. i. d.

Supplied: Bottles of 42 tablets (3 weeks' treatment).

GERONIAZOL® TT*

*TEMPOTROL® (Time Controlled Therapy)

PHILIPS ROXANE, INC. Columbus 16, Ohio

Trademarked drugs . . .

or "drugs anonymous"?

In the field of medicine, as almost everywhere else in a free economy, the trademark concept has evolved over the years. As with most human institutions, there are some who may not consider it ideal; but it has brought about three signal benefits:

To the physician it gives assurance of quality in the drugs he prescribes—assurance backed by the biggest asset of the maker, his reputation.

To the manufacturer it gives one of the greatest possible incentives to produce new and better curative agents.

To the pharmacist it gives preparations which he can dispense with confidence.

If trademarks are done away with, a whole new setup must be created:

1. An enormously expanded, expensive system of government quality control.

2. A new system of generic nomenclature which would magically turn out names not only rememberably simple, but also conforming to the principles of complex chemical terminology.

3. Something new to fill the gap left by the elimination of the trademark incentive to produce new and better drugs.

The American system has been pre-eminent in producing and distributing good medicines. Above all it has been successful in creating new advances in therapy. In a dubious effort to provide cheaper medicines by abolishing the trade names upon which the responsible makers stake their reputations, let us beware of sacrificing this success.

This message is brought to you on behalf of the producers of prescription drugs to help you answer your patients' questions on this current medical topic. For additional information, please write **Pharmaceutical Manufacturers Association,** *1411 K Street, N. W., Washington 5, D.C.*

IRON PLUS THE BENEFITS OF A FECAL SOFTENER

OPTIMAL RELEASE IN THE AREA OF OPTIMAL UPTAKE

NEW FERRO-SEQUELS®

SUSTAINED RELEASE IRON CAPSULES LEDERLE

A rational approach to the treatment of iron deficiency. The sustained, timed action releases the bulk of the iron in the duodenum-jejunum and some in the ileum, closely approximating the normal sequence of absorption of medicinal iron.[1] The possibility of G. I. irritation is reduced because ferrous fumarate is an improved, better tolerated iron, and concentration of iron is not unduly high at any point. FERRO-SEQUELS also contain dioctyl sodium sulfosuccinate which helps soften stools for easier elimination.

Each two-tone, green FERRO-SEQUELS contains:

Ferrous fumarate (equivalent to 50 mg. elemental iron)	150 mg.
Dioctyl sodium sulfosuccinate	100 mg.

Dosage: 1 or 2 SEQUELS daily. Supplied: Bottle of 30.

1. Goodman, L. S., and Gilman, A.: The Pharmacologic Basis of Therapeutics, Second Edition, The Macmillan Company, New York, 1955, pp. 1454-5.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Retroperitoneal Cystic Lymphangioma

True retroperitoneal cystic lymphangioma is a rare lesion which cannot be detected until it causes displacement of surrounding viscera or can be palpated abdominally. Preoperative diagnosis cannot be made with consistent accuracy.

Operation with complete excision without rupture is the procedure of choice. The surgeon may depend on the benign nature of this neoplasm, since no cases of malignant retroperineal cystic lymphangiomas have been reported in the medical literature.

This is the seventeenth case of retroperitoneal cystic lymphangioma reported in the literature.

LESTER A. BARNETT, M.D.

J.A.M.A. (1960), Vol. 173, No. 10, Pp. 1111-1116

Fatal Embolization of Pulmonary Capillaries

A case of sudden death related to barium enema examination of the colon occurred. The death apparently resulted from massive embolization of the pulmonary capillary bed by barium sulfate crystals. The possibly greater incidence of sublethal and unrecognized fatal cases is suggested. Perhaps there is a need for other types of contrast mediums compatible with the probable entrance into circulation, in some degree in an unknown percentage of examinations. A possible predisposing cause in the form of severe sigmoid diverticultitis is postulated, and it is possible that the routine use of inflatable bags in the anal canal should be reevaluated. Recognition of the histological lesion depends on screening lung sections with reduced light.

Addendum: Another instance of sudden death in association with barium enema examination has been reported by Rosenberg and Fine, since completion of this case report. In Rosenberg's and Fine's case, an elderly woman also was undergoing routine examination with fluoroscopy when sudden radiation of barium occurred in a vascular pattern and was seen to enter the heart and pulmonary arteries. They also used a Bardex bag in their case. They were not able to obtain permission for autopsy, and the question of evidence of gross trauma or preexisting pathology has not been resolved.

KEITH M. TRUEMNER, M.D.,
STANLEY WHITE, M.D. and
HOMER VANDANDINGHAM, M.D.

J.A.M.A. (1960), Vol. 173, No. 10, Pp. 1089-1092

Puerperal Septicemia and Endocarditis Caused by Pseudomonas Aeruginosa

The increasing incidence of Pseudomonas aeruginosa septicemia, with acute endocarditis, is related to the use of antibiotics. In a pregnant patient, metastatic sites of infection were seen in the spleen, liver, brain, heart valves, and possibly kidneys. The mortality of Pseudomonas septicemia is over 50%. Free drainage or removal of infected foci is indicated. Polymyxin B and oxytetracycline are recommended for specific treatment. Steroids are generally considered ineffective, although some benefit was derived in this case. The role of good aseptic technique in obstetric care as emphasized in the last century in prevention of all infection cannot be overstressed.

ROBERT M. HODGES, M.D. AND
RUSSELL R. DE ALVAREZ, M.D.

J.A.M.A. (1960), Vol. 173, No. 10, Pp. 1081-1088

Concluded on page 162a

"Doctor...

I'm so tired all the time"

In most cases where lethargy and fatigue are a problem—in menopause, senility, convalescence, oversedation, and mild depression, for example—the gentle stimulant action of Ritalin safely restores normal physical and mental activity. Summarizing the results of therapy with Ritalin in 89 patients who were either chronically ill, convalescing, depressed, or oversedated, Natenshon* states: "They were alert, fatigue disappeared, and they could go all day without tiring."

SUPPLIED *Tablets,* 5 mg. (pale yellow), 10 mg. (light blue), 20 mg. (peach colored).

For complete information about Ritalin (including dosage, cautions, and side effects), see 1961 Physicians' Desk Reference or write CIBA, Summit, N. J.

RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

*Natenshon, A. L.: Dis. Nerv. System *17*:392 (Dec.) 1956.

she'll be active again on

Ritalin®

gentle stimulant for lethargic patients

C I B A Summit, N. J.

in mild or moderate rheumatoid

a majority of patients on B.I.D.

Conservative management in the arthritic Through the "antidoloritic"* effects of DECAGESIC you can maintain your patients with mild or moderate rheumatoid arthritis on the lowest possible steroid dosage, yet obtain improved functional status and greater relief of pain. DECAGESIC provides DECADRON®, for suppression of inflammation, and aspirin, for control of pain on movement. In many patients, higher-dosage steroid regimens may be replaced without loss of control, and long-range treatment continued with greater safety.

Simplified, flexible dosage regimen

For your patient—

DECAGESIC®—

Dexamethasone with aspirin and aluminum hydroxide

Sig: 2 tabs B.I.D.

Providing a total daily dosage of:

1 mg. of DECADRON® dexamethasone
2000 mg. of aspirin (acetylsalicylic acid)
300 mg. of aluminum hydroxide (as the dried gel)

Greater safety and economy The combination of DECADRON and aspirin in DECAGESIC reduces the likelihood of the hormonal effects frequently seen with high corticosteroid dosage and assures regular aspirin intake. You can also prescribe DECAGESIC with economy . . . cost of daily therapy is generally less than prednisone, prednisolone and other corticosteroids.

Adds a natural sense of well-being The patient adequately maintained on DECAGESIC may be expected to return to work and take part in normal social activities, with a natural sense of well-being.

arthritis...Decagesic maintains

dosage...economically

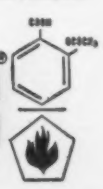
Indications: At B.I.D. maintenance levels—mild to moderate rheumatoid arthritis; at T.I.D. or Q.I.D. dosage levels—for acute, painful inflammatory musculoskeletal conditions and other conditions in which the conjunctive use of steroid and salicylate is indicated.

Dosage: Average maintenance dosage 2 tablets B.I.D. Some patients may require one or two additional tablets in a T.I.D. schedule. In patients with occasional local flare-ups, Injection DECADRON Phosphate in the affected joint will control the exacerbation, without the need for increased oral dosage. The usual precautions of corticosteroid therapy should be observed. Before prescribing or administering DECAGESIC or DECADRON, the physician should consult detailed information on use accompanying the package or available on request.

Supplied: Bottles of 100. Each tablet contains 0.25 mg. of DECADRON dexamethasone, 500 mg. of aspirin (acetylsalicylic acid) and 75 mg. of aluminum hydroxide (present as the dried gel). Injection DECADRON Phosphate in 5-cc. vials, each cc. containing 4 mg. of dexamethasone 21-phosphate as the disodium salt; 8 mg. creatinine; 3.2 mg. sodium bisulfite, USP; 10 mg. sodium citrate, USP; 5 mg. phenol, USP; sodium hydroxide, USP, to adjust pH; water for injection, q.s. 1 cc.

*The term "antidoloritic" is used by Merck Sharp & Dohme to describe an agent designed to allay pain associated with inflammation—dolor = pain, itic = associated with inflammation. DECAGESIC and DECADRON are trademarks of Merck & Co., Inc.

MERCK SHARP & DOHME • Division of Merck & Co., Inc., West Point, Pa.



Decagesic®

dexamethasone with aspirin and aluminum hydroxide

conservative management of mild or moderate rheumatoid arthritis

Radiation Effects Reviewed

There is increasing evidence that exposure to low levels of nuclear radiation over prolonged periods is not harmful to human beings, an Atomic Energy Commission health physicist said recently.

Hugh F. Henry, Ph.D., of the Union Carbide Nuclear Co., Oak Ridge, Tenn., discussing radiation said:

"A significant and growing amount of experimental information indicates that the overall effects of chronic exposure (at low levels) are not harmful."

The harmful effects of penetrating radiation generally involve changes in the life span or in body organs or processes, Henry said. If radiation is harmful, he said, there may be a shortening of life or the individual's efficiency may be reduced for a long period.

"There is no evidence that radiation produces a general disability of man or animals, except as the life span is also affected," he said.

Undoubtedly, a sufficiently large dose received in a few minutes will reduce the life of any individual to only a few days, Henry said. However, he said, information involving lifetime exposure is available only as a statistical result from very low-average exposures.

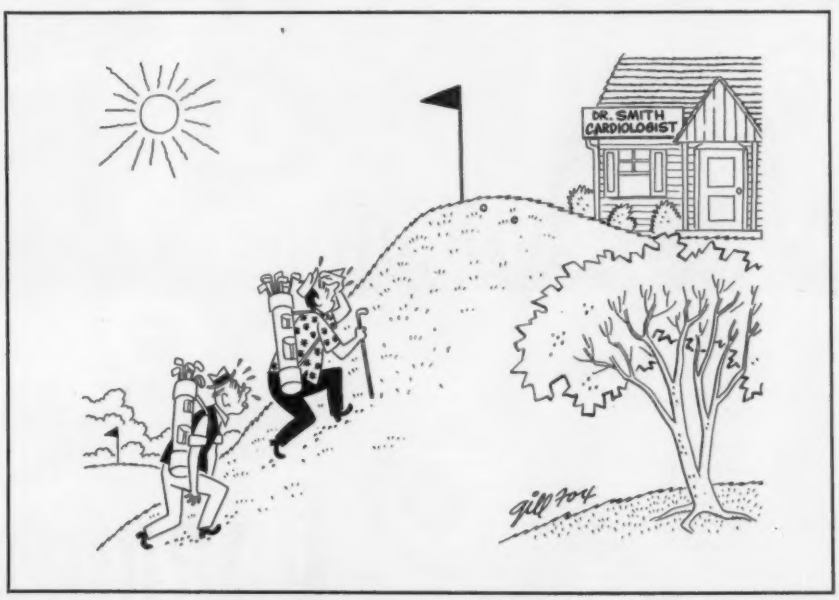
From a review of pertinent studies of low-level radiation, he drew this conclusion:

"The preponderance of data better supports the hypothesis that low chronic exposures result in an increased longevity than it supports the opposite hypothesis of a decreased longevity.

"Apparently the most pessimistic implication of the experimental data is the conclusion that there is a radiation exposure threshold level below which, as an overall consideration involving somatic injury, radiation exposures may be safely received."

Only a few statistical studies on the genetic effects of radiation have been attempted in man, Henry said. Current opinions are not based on experimental evidence and any conclusion "must necessarily be based largely upon speculation," he said.

HUGH F. HENRY, PH.D.
J. A. M. A., May 1961



The discomfort following my tonsillectomy was almost nonexistent. I could eat and swallow without feeling pain because my doctor gave me Xylocaine... whatever that is!

Xylocaine® Viscous topical anesthetic for oral administration
(brand of lidocaine*)

For almost immediate relief of pain and easier swallowing after T & A, Xylocaine Viscous spreads evenly and adheres to the membranes. Cherry flavored Xylocaine Viscous contains 2% Xylocaine hydrochloride; water miscible and of viscous consistency. Dose: 1 teaspoonful, swished around in the mouth, and then swallowed slowly. Astra Pharmaceutical Products, Inc., Worcester 6, Mass.

*U.S. Patent No. 2,441,498

NEWS AND NOTES

Selected items of current interest from the fields of medical research and education.

Kwashiorkor

Kwashiorkor, frequently accompanied by anemia, malaria, tuberculosis and/or intestinal parasites, is responsible for as much as a 50-percent death rate among live-born infants in many of the world's underdeveloped areas. So reports Dr. Louis K. Diamond, Hematologist and Associate Chief of the Medical Service at Children's Hospital Medical Center, Boston, who has recently returned to the United States from an extended tour of Africa and the Middle East. He observed that up-to-date medical facilities such as the Mulago Hospital in Kampala, Uganda, and the Children's Hospital in Ankara, Turkey, are appearing in the cities, while areas only somewhat removed from urban centers are still without any form of sanitation, clean drinking water, or adequate nutrition. It is in these areas that Kwashiorkor and many other treatable conditions flourish unchecked.

National Study of Infants

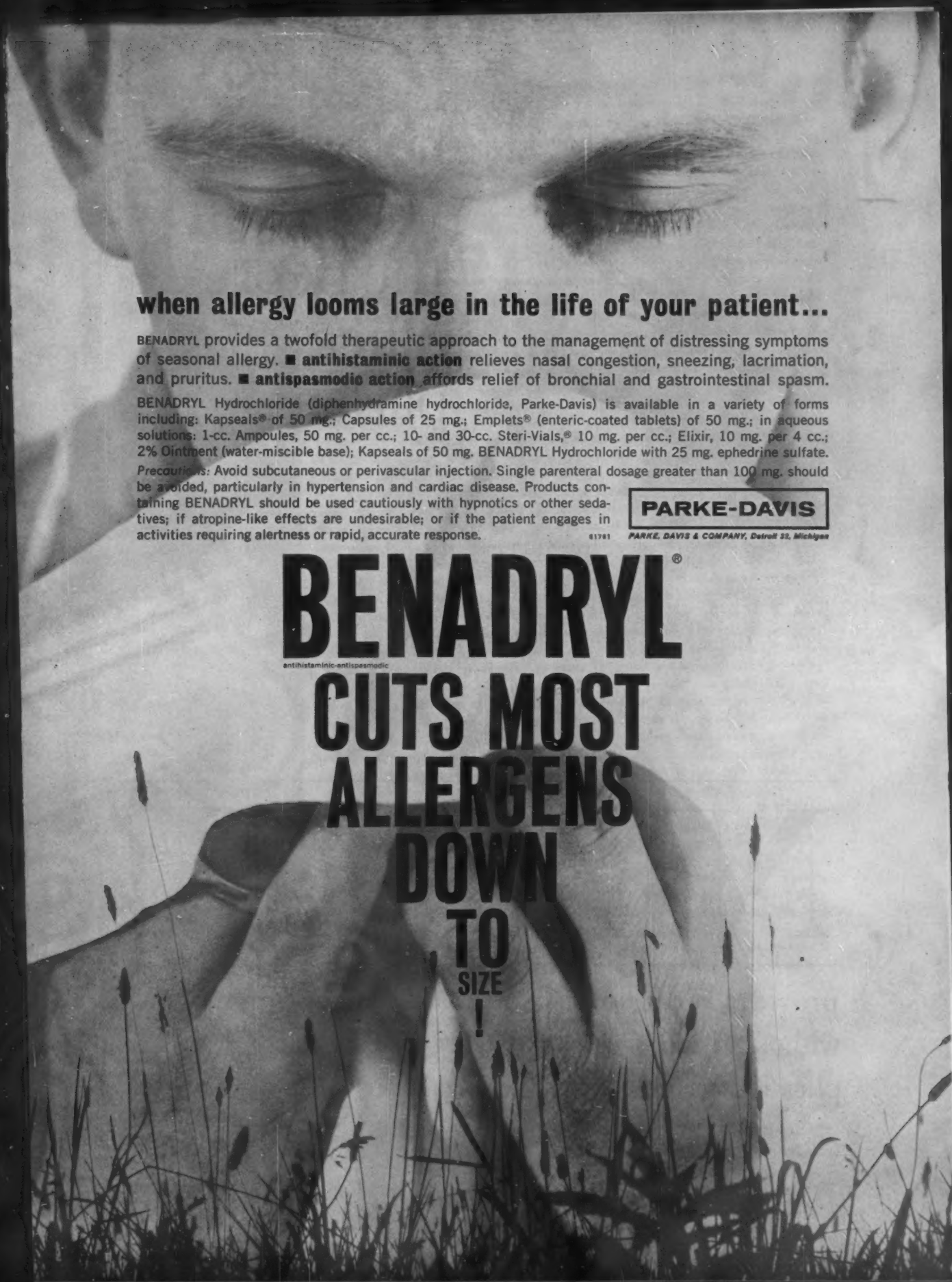
Chairmen of two departments at the Creighton University School of Medicine are heading a local phase of a national study of infants. The two physicians are co-chairmen of the Perinatal Committee at St. Joseph's Hospital which is guiding the Hospital's participation in a statistical study being conducted by the American Medical Research Foundation. Nationally, the Foundation will study the deliveries of 100,000 infants in private hospitals in 1961, of which approximately 2,500 will be from St. Joseph's Hospital. One of the requirements for participation in the study is that the hospital have 500 or more deliveries a year.

Duplicate forms will be maintained at St. Joseph's and at study headquarters in Philadelphia where the statistics will be compiled. Local and national results will be sent back to the hospital each month. Infant death rates have progressed downward steadily since 1915 until the rate in the United States for infants within the first year of life is now 27 per thousand births. This figure is believed by many persons to have reached an unreducible minimum, but there are seven countries in the world with a lower infant death rate, therefore, improvement in this country would seem to be attainable by further study.

Oklahoma's Hospital Facilities Expand

The first part of the plan for Tulsa's greatly expanded medical facilities has already been put in operation with the opening of the Saint Francis Hospital. This eight-million-dollar institution is a gift from the William K. Warren Foundation. The 250-bed, six-story facility is constructed in the shape of a "Y" and a similar structure, expected to adjoin the new hospital will double the bed capacity. The proposed medical center, when completed, will represent a $42-million expenditure. Plans include a shopping center next to the medical facilities which will aid in financing the medical project.

Continued on page 168a


when allergy looms large in the life of your patient...
BENADRYL provides a twofold therapeutic approach to the management of distressing symptoms of seasonal allergy. ■ antihistaminic action relieves nasal congestion, sneezing, lacrimation, and pruritus. ■ antispasmodic action affords relief of bronchial and gastrointestinal spasm.
BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms including: Kapseals® of 50 mg.; Capsules of 25 mg.; Emplets® (enteric-coated tablets) of 50 mg.; in aqueous solutions: 1-cc. Ampoules, 50 mg. per cc.; 10- and 30-cc. Steri-Vials,® 10 mg. per cc.; Elixir, 10 mg. per 4 cc.; 2% Ointment (water-miscible base); Kapseals of 50 mg. BENADRYL Hydrochloride with 25 mg. ephedrine sulfate.
Precautions: Avoid subcutaneous or perivascular injection. Single parenteral dosage greater than 100 mg. should be avoided, particularly in hypertension and cardiac disease. Products containing BENADRYL should be used cautiously with hypnotics or other sedatives; if atropine-like effects are undesirable; or if the patient engages in activities requiring alertness or rapid, accurate response.
61781
PARKE-DAVIS
PARKE, DAVIS & COMPANY, Detroit 32, Michigan
BENADRYL®
antihistaminic-antispasmodic
CUTS MOST ALLERGENS DOWN TO SIZE!

restores
the will
to
improve

In Brief Niamid, brand of nialamide, is 1-(2-[benzylcarbamyl] ethyl)-2-isonicotinylhydrazine, a well-tolerated antidepressant that may correct or relieve depression on once-a-day dosage. **Indications:** Depressive syndromes of varying degrees of severity may be responsive to Niamid including: involutional melancholia, postpartum depression, depressed phase of manic-depressive reaction, senile depression, reactive depression, schizophrenic reaction with depressive component, psychoneurotic depression. ■ In neurotic or psychotic patients, Niamid may normalize or favorably modify aberrant or excessive reactions and symptoms of depression such as: phobias, guilt feelings, dejection, feeling of inadequacy, discouragement, worry, uneasiness, distrustfulness, hypochondriacal and nihilistic ideas, difficulty in concentration, insomnia, loss of energy or drive, indecision, hopelessness, helplessness, decreased functional activity, emotional and physical fatigue, irritableness, inability to rest or relax, sadness, anorexia and weight loss, and withdrawal from society. *In the withdrawn patient,* Niamid may elevate the mood so that there is increased activity, increased awareness and interest in surroundings, and increased participation in group activities. Appetite may be increased and there may be decreased fatigability. Lack of clinical response to other antidepressant therapy does not preclude a favorable response to Niamid. Relief of depression may also be evidenced by elimination or reduction of the need for somatic therapy, such as electroshock. *In patients suffering from depression associated with chronic illness,* Niamid may improve mental outlook, reduce the impact of pain, decrease the amounts of narcotics or analgesics needed, and improve appetite and well-being. *In patients with angina pectoris,* Niamid has been found to be a useful adjunct to management through reduction in frequency of attacks and pain. **Dosage:** Starting dosage is 75 to 100 mg. on a once-a-day or divided daily basis. This may subsequently be adjusted depending upon the tolerance and response. Responses to Niamid are not usually rapid, and revisions of dose should be withheld until at least a few days have elapsed at each level. Increments or decrements of 12½-25 mg. are generally sufficient. A daily dosage of 200 mg. is the maximum recommended for routine use. (As much as 450 mg. daily has been used in some patients.) **Side Effects:** Niamid, in clinical use, has been characterized by a significant lack of toxicity. It is generally well tolerated. Nervousness, restlessness, insomnia, hypomania, or mania, sometimes occur. Occasional headache, weakness, lethargy, vertigo, dryness of the mouth, blurred vision, increased perspiration, constipation, mild skin rash, mild leukopenia, and epigastric distress may be obviated or modified by reductions in dose. Effects due to monoamine oxidase inhibition persist for a substantial period following discontinuation of the drug. **Precautions and Contraindications:** Hepatic toxicity has not been reported in extensive clinical studies. However, if previous or concurrent liver disease is suspected, the possibility of hepatic reactions and liver function studies should be considered. ■ The suicidal patient is always in danger, and great care must be exercised to maintain all security precautions. The apathetic patient may obtain sufficient energy to harm himself before his depression has been fully alleviated. ■ Niamid may potentiate sedatives, narcotics, hypnotics, analgesics, muscle relaxants, sympathomimetic agents, thiazide compounds and stimulants, including alcohol. Caution should be exercised when rauwolfia compounds and Niamid are administered simultaneously. Rare instances have been reported of reactions (including atropine-like effects, and muscular rigidity) occurring when imipramine was administered during or shortly after treatment with certain other drugs that inhibit monoamine oxidase. **In Cardiology:** The central effects of Niamid may encourage hyperactivity and the patient should be closely observed for any such manifestation. Orthostatic hypotension or hypertensive episodes occur in a few individuals; cardiac patients should be carefully selected and closely supervised. **In Epilepsy:** Although in some patients therapeutic benefits have been achieved with Niamid, in others the disease has been aggravated. Care should be exercised in the concomitant use of imipramine, since such treatment with monoamine oxidase inhibitors has been reported to aggravate the grand mal seizures. **In Tuberculosis:** Existing data do not indicate whether resistance of M. tuberculosis to isoniazid may be induced with Niamid therapy; nevertheless, it should be withheld in the depressed patient with coexisting tuberculosis who may need isoniazid. ■ As with all therapeutic agents excreted in part via the kidney, due caution in adjusting dosage in patients with impaired renal function should be observed. **Supplied:** Niamid (Nialamide) Tablets, 25 mg.: 100's—pink, scored tablets; 100 mg.: 100's—orange, scored tablets./***More detailed professional information available on request.***

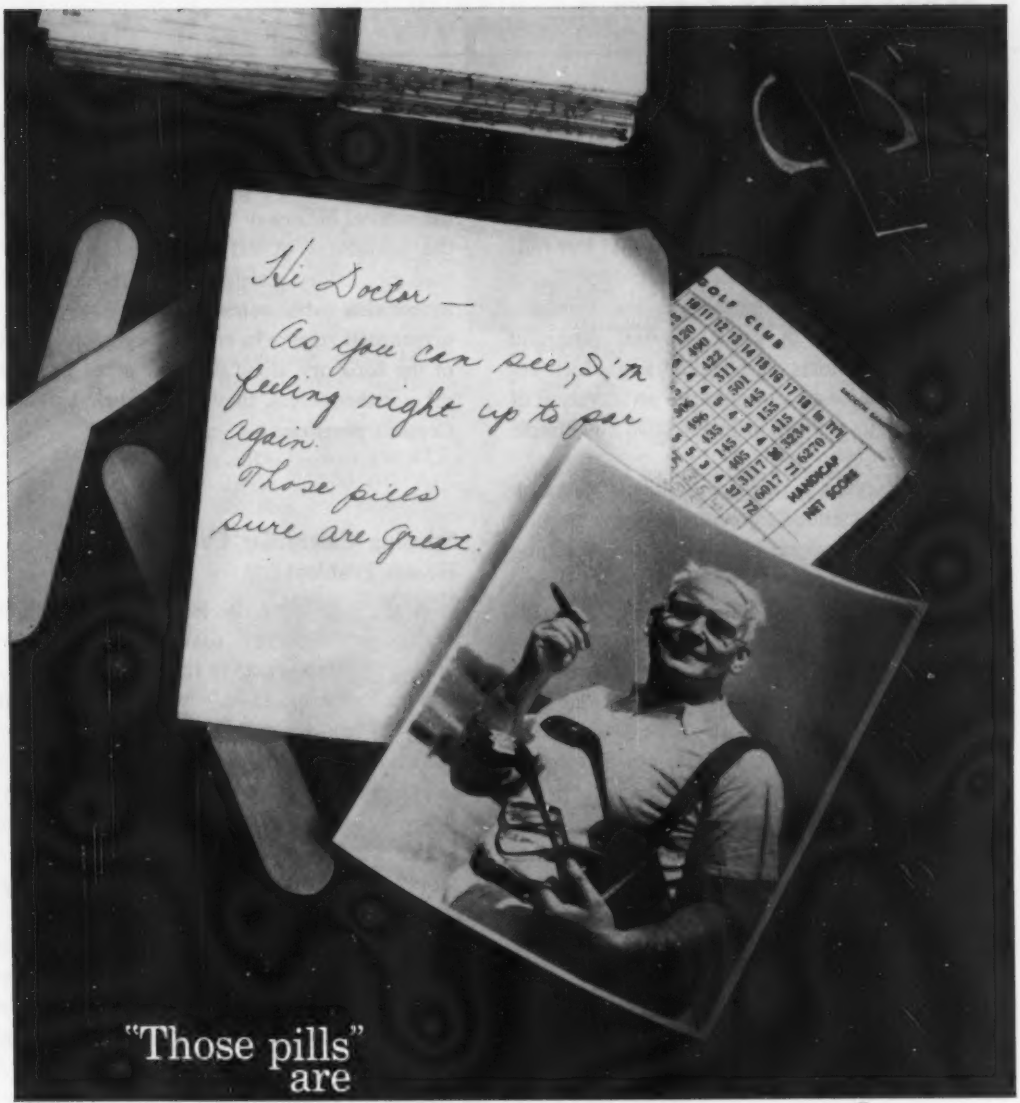
Clinical Research Center in New England

A Harvard Medical Clinical Research Center to speed the translation of new, basic medical knowledge to the care of patients was opened at the Peter Bent Brigham Hospital early in 1961. The Center is being made possible through a three-year grant of approximately $2,000,000 from the Division of General Medical Sciences of the National Institutes of Health. Dr. George W. Thorn will serve as Director of the Center which will have as one of its great sources of strength the collaboration of the basic science departments in the Harvard Medical School. The work in the new Center will involve major collaboration of the four divisions of the Peter Bent Brigham Hospital —Medicine, Surgery, Radiology and Pathology —and the Biophysics Research Laboratory.

Relationships between the services at the Hospital will not be altered by the creation of the new facility. Although certain areas of research in Surgery, Radiology and Pathology are included in the plans for the activities of the new Clinical Center, such research areas remain under the primary direction of the Chiefs of each of the Services. The Clinical Research Center will also collaborate in the basic science departments of the Harvard Medical School, the Harvard School of Public Health, the Baker Clinic of the New England Deaconess Hospital, the Boston Lying-in Hospital, the West Roxbury Veterans Administration Hospital, the Robert Breck Brigham Hospital and the engineering and science departments of the Massachusetts Institute of Technology.

The trend toward the establishment of a unit such as the Clinical Research Center, though accelerated since the end of World War II, was started shortly after the Hospital was opened in 1913. At that early date there was beginning exploration of the chemical and metabolic approach to clinical investigation in the hospital. As this approach became increasingly productive in furthering the understanding of the processes of disease and in achieving spe-

Continued on page 170a



GEVRESTIN®

Geriatric Vitamins—Minerals—Hormones—d-Amphetamine Lederle

one capsule every morning supplements the diet to help achieve proper balance: ❖ nutritionally ❖ metabolically ❖ mentally

Each dry-filled capsule contains: Ethinyl Estradiol, 0.01 mg. • Methyl Testosterone, 2.5 mg. • d-Amphetamine Sulfate, 2.5 mg. • Vitamin A (Acetate), 5,000 U.S.P. Units • Vitamin D, 500 U.S.P. Units • Vitamin B_{12} with AUTRINIC® Intrinsic Factor Concentrate, 1/15 N.F. Oral Unit • Thiamine Mononitrate (B_1), 5 mg. • Riboflavin (B_2), 5 mg. • Niacinamide, 15 mg. • Pyridoxine HCl (B_6), 0.5 mg. • Calcium Pantothenate, 5 mg. • Choline Bitartrate, 25 mg. • Inositol, 25 mg. • Ascorbic Acid (C) as Calcium Ascorbate, 50 mg. • l-Lysine Monohydrochloride, 25 mg. • Vitamin E (Tocopheryl Acid Succinate), 10 Int. Units • Rutin, 12.5 mg. • Ferrous Fumarate (Elemental iron, 10 mg.), 30.4 mg. • Iodine (as KI), 0.1 mg. • Calcium (as $CaHPO_4$), 35 mg. • Phosphorus (as $CaHPO_4$), 27 mg. • Fluorine (as CaF_2), 0.1 mg. • Copper (as CuO), 1 mg. • Potassium (as K_2SO_4), 5 mg. • Manganese (as MnO_2), 1 mg. • Zinc (as ZnO), 0.5 mg. • Magnesium (MgO), 1 mg. *Supply:* Bottles of 100 and 1,000.

REQUEST COMPLETE INFORMATION ON INDICATIONS, DOSAGE, PRECAUTIONS AND CONTRAINDICATIONS FROM YOUR LEDERLE REPRESENTATIVE OR WRITE TO MEDICAL ADVISORY DEPARTMENT.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

cific, rational and effective therapy, the facilities for basic research and their application to clinical problems have been expanded continuously and at an increasing rate. These investigations have included: the relationship of hormones to medical and surgical problems; disorders of electrolyte metabolism; the intermediary metabolism of carbohydrates, fats and proteins; problems of hemotherapy which resulted in major advances in the preservation of blood and its utilization by effective and simple means.

Opportunities to utilize the Clinical Research Center are extended to members of the Faculty of Medicine working in other of the Teaching Hospitals associated with Harvard. Clinical areas of interest and concern immediately involved in the Center are studies: of the electrolyte composition of the body in various tissues and compartments in normal subjects and in patients with surgical and medical disorders; relating to the influence of insulin and other hormones on the metabolism of adipose tissue in clinical disorders associated with abnormalities in fat metabolism; on female patients with abnormal hair growth, ovarian and adrenal function; of the distribution and abnormalities in trace elements in health and disease; on patients with liver disease with particular reference to abnormalities of trace metal metabolism; of the natural history of valvular heart disease; on the usefulness of extracorporeal, servo-operated circulatory assistors in heart surgery and in patients with acute heart failure, and of myocardial reserve in conjunction with analysis of the coronary blood flow. As other problems present themselves, they will be included in the Center's programs.

MEDICAL TEASERS

Answer to puzzle on page 53a

Stinging Caterpillar Causes Health Problem

A stinging caterpillar has become a "public health problem" in some southern states, according to an article in the J.A.M.A.

Sometimes called a "woolly worm," its technical name is megalopyge opercularis.

Texas apparently has the largest number of the caterpillars but they also have been reported in Missouri, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, and Louisiana, the article said.

The caterpillar has many quills which release a poison on contact. The sting can cause severe local pain, swelling at the site of the sting, headache, shock-like symptoms, and convulsions.

Although no deaths have been reported from the sting, the article said, the severity of symptoms in some patients suggests that death could result.

About 2,130 stings were reported during an epidemic in southeastern Texas in the summer of 1958, the article reported. There is a marked increase in the prevalence of the caterpillars every four or five years, it added.

The article was written by John P. McGovern, M.D.; Gilbert D. Barkin, M.D.; Thomas R. McElhenney, M.D., and Reubin Wende, M.S., Houston.

Concluded on page 173a

Apothecary Jars

FOR DISPLAY, HOME, OR GIFT PURPOSES

These beautiful decorative Jars are hand made and painted by the skilled craftsmen of the famous Anton Herr Pottery Works of Germany. They are suitable as Collector's items, prizes, gifts, etc. Money promptly refunded if not satisfactory.

PLEASE ORDER BY NUMBER.

Add 10% to orders up to $10.00, 5% to orders up to $50.00, 3% to orders over $50.00 for postage, packing and insurance.

HB 14 HB 9 HB 27

HB 14. Jar "Boppard," decorated with roses, 12" high.....$23.65
HB 9. Jar "Mauritius," wooden top cover, 7½" high....$11.80
HB 27. Can "Coat-of-Arms" design, 10½" high.....$42.65

HB 21 HB 15 HB 18 HB 41a

HB 21. Bottle "Angelus" (colored)
10" high $21.60
6" high 9.45
HB 15. Jar "Boppard" design
7½" high $8.80

HB 16. Jar "Franz" design
9½" high $7.25
HB 41a. Liqueur Bottle "Apothecary Design"
6" high $6.50

Medical Times Overseas, Inc.

(Exclusive U.S. Agents for Anton Herr Pottery Works)
1447 Northern Boulevard, Manhasset, N. Y.

HB 1 HB 12 HB 2 HB 8

HB 1. Jar "Pogena" design
7" high $13.65
5" high 8.95
3¾" high 4.95
HB 12. Jar "Delft" (colored)
7" high $15.00
5½" high 9.15
3¾" high 5.25
HB 2. Jar "Hamelin" design
7" high $10.95
5" high 8.50
3¾" high 4.95
HB 8. Jar "Hanau" design
7" high $15.25
5" high 8.95
3¾" high 4.95

'MYSOLINE'® IN EPILEPSY

BRAND OF PRIMIDONE

CLEAR EXPRESSION OF CONTROL

"The most important drug to be introduced in recent years ...This is the drug of choice in the treatment of psychomotor epilepsy and in focal seizures, and is of particular value in the handling of intractable cases of grand mal epilepsy."*

Employed alone or in combination, "Mysoline" exhibits dramatic effectiveness, often where epilepsy has remained intractable to maximal doses of other anticonvulsants. Virtual freedom from toxic reactions is assured by a wide safety margin.

* Forster, F. M.: Wisconsin M. J. 58:375 (July) 1959. Literature and bibliography on request.

AYERST LABORATORIES NEW YORK 16, N.Y. • MONTREAL, CANADA

"Mysoline" is available in the United States by arrangement with Imperial Chemical Industries, Ltd.

Psychiatric Clinic at University of Alabama

The University of Alabama Medical Center has been augmented by a Psychiatric Clinic made possible by the gift of Mr. and Mrs. Joseph Smolian. In addition to the care of patients, the facility will be used for the education and training of mental health personnel.

Gynecology at the University of Cincinnati College of Medicine

The Dean of the University of Cincinnati College of Medicine has announced the establishment of a Department of Gynecology with Dr. Lester J. Bossert as Director. Gynecology formerly was a division of the Department of Surgery. The new department instructs students from the College of Medicine and College of Nursing and Health. With the Department of Obstetrics, it offers a combined residency training program of four years for physicians preparing to specialize in obstetrics and gynecology.

Wax Models for Museum

A group of wax models illustrating various skin diseases was presented to the Medical Museum, Armed Forces Institute of Pathology, by the College of Physicians of Philadelphia. These wax models had previously been the property of the Jefferson Medical College where they had been used for a long period.

Geriatric Rehabilitation

An intensive rehabilitation program for impoverished patients 65 years of age or older who would otherwise be institutionalized can reduce costs. The cost of achieving and maintaining rehabilitation for 34 patients who were on the program at the end of a 24-month study period averaged $97.84 per patient month. The cost is expected to decrease, however, as patients remain on the program for longer periods.

considerably
less
tense

BUTISOL SODIUM®
butabarbital sodium

"was found to be the most effective sedative which will produce satisfactory daytime sedation...with minimal occurrence of untoward reactions."[1]

...but still keen-eyed and alert

BUTISOL sodium®

butabarbital sodium

In a five-year study[2] of representative sedative and ataractic agents, BUTISOL SODIUM provided the highest therapeutic index (per cent of effectiveness: per cent of untoward reactions) for control of anxiety and insomnia by daytime dosage.

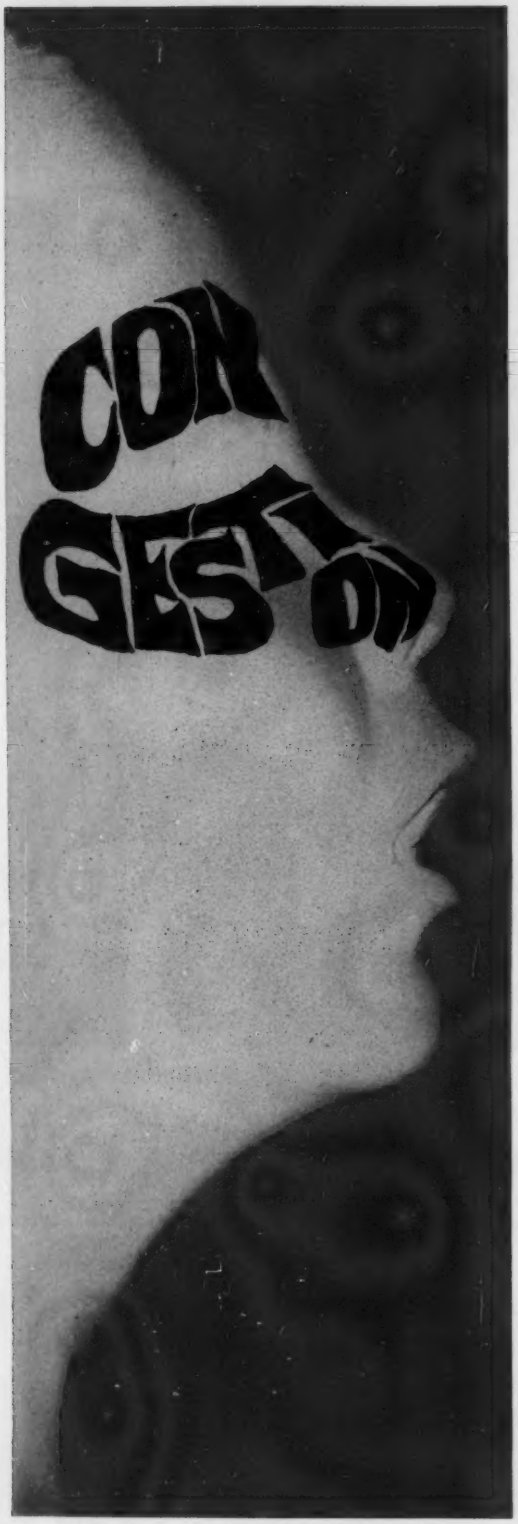
"The therapeutic index as defined in this study reflects clinical usefulness and indicates to what degree a sedative agent approaches the ideal."[2] It is significant that phenobarbital, although widely used in anxiety states, falls far short of the ideal.[2]

BUTISOL SODIUM® Tablets
Repeat-Action Tablets
Elixir/Capsules

McNEIL LABORATORIES, INC., Fort Washington, Pa.

1. Grossman, A. J., Batterman, R. C., and Leifer, P.: Comparative Testing of Daytime Sedatives and Hypnotic Medications, Fed. Proc. *17*:373 (March) 1958.

2. Batterman, R. C., Grossman, A. J., Leifer, P., and Mouratoff, G. J.: Clinical Re-evaluation of Daytime Sedatives, Postgrad. Med. *26*:502-509 (October) 1959.



In summer respiratory allergies,
the treatment problem is to relieve congestion. Valuable as antihistamines are against sneezing, itchy, weeping eyes and rhinorrhea, they are less effective against nasal congestion.[1]

NOVAHISTINE® DECONGESTS

Novahistine provides more than simple antihistaminic effect. It shrinks congested mucous membranes (nasal, pharyngeal, laryngeal, conjunctival), opens up air passages, promotes sinus drainage, and helps prevent mouth breathing.

NOVAHISTINE LP TABLETS

8 to 12 hour relief with a single adult dose of 2 tablets. Each tablet contains 25 mg. phenylephrine HCl (a vasoconstrictor that does not increase pulse rate) and 4 mg. chlorprophenpyridamine maleate (a potent, well-tolerated antihistamine).

NOVAHISTINE ELIXIR

exceptionally palatable liquid that children like to take. Each 5 ml. teaspoonful contains 5 mg. phenylephrine HCl and 2 mg. chlorprophenpyridamine maleate.

1. Beckman, H.: *Pharmacology: The Nature, Action and Use of Drugs*, 2nd Ed. W. B. Saunders Company, Philadelphia and London, 1961, p. 673.

PM

PITMAN-MOORE COMPANY
Division of The Dow Chemical Company
Indianapolis 6, Indiana

Dulcolax®

brand of bisacodyl tablets and suppositories

the laxative with a bibliography

Geigy

The extensive bibliography* on Dulcolax, amounting to almost 100 clinical reports, strongly affirms its clinical advantages.

Induces Natural Evacuation
The action of Dulcolax is based on simple reflex production of large bowel peristalsis on contact with the colonic mucosa. As a result, stools are usually soft and well formed and purgation is avoided.

Predictable Action
With Dulcolax tablets action is almost invariably obtained overnight... with suppositories action occurs within the hour.

Wide Application
Dulcolax is as well adapted to preparation for radiographic and operative procedures as it is to the treatment of constipation.

*Detailed literature, including complete bibliography, available on request.

Dulcolax®, brand of bisacodyl: Tablets of 5 mg. and suppositories of 10 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York DU 568-60

DIAGNOSIS, PLEASE

(Answer from page 33a)

ESOPHAGEAL VARICES

There are numerous constant filling defects throughout the esophagus and upper portion of the stomach as result of luminal protrusions produced by varices in these regions. The size of the filling defects can be modified by the maneuvers of Valsalva and Müller.

WHO IS THIS DOCTOR?

(Answer from page 67a)

MAX THOREK

MEDIQUIZ

(Answers from page 74a)

1 (A), 2 (A), 3 (B), 4 (B), 5 (C), 6 (A), 7 (D), 8 (B), 9 (C), 10 (E), 11 (B), 12 (A), 13 (A).

WHAT'S YOUR VERDICT?

(Answer from page 47a)

The Appellate Court affirmed the judgment of the lower court, holding: "The responsibility placed upon the hospital and its staff by an emergency problem such as was here presented cannot be fulfilled with ease. Fortunately the medical profession is facing, and attempting to fulfill, its obligation. Unfortunately it is all too clear that the minimal requirements of that responsibility were flagrantly disregarded in this case. While we cannot hold that the death in transit was caused by the doctor's lack of cooperation with the second hospital, and while we therefore must affirm the judgment, the court cannot condone the doctor's performance."

Based on decision of
DISTRICT COURT OF APPEAL OF
CALIFORNIA

WHENEVER YOU NEED AN ANTIBIOTIC-NYSTATIN COMBINATION...prescribe the only one with the added benefits of DECLOMYCIN® *Demethylchlortetracycline ⋄ full activity with lower intake ⋄ high sustained activity levels ⋄ activity maintained for 24 to 48 hours after the last dose.*

***remember* DECLOSTATIN®**

Demethylchlortetracycline and Nystatin Lederle

Request complete information on indications, dosage, precautions and contraindications from your Lederle representative, or write to Medical Advisory Department.

LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Advertisers' Index

WHY ACID MANTLE?

A DISTINCT THERAPEUTIC ENTITY*
Restores and maintains skin's normal protective acidity—
speeds natural healing and helps sensitive skin resist irritants and infection.

A NOTABLE VEHICLE
Special water-miscible, evaporable base assures better dispersion,
greater concentration of active ingredients in contact with skin—
increases response through its own therapeutic action.

*Supplied: in Creme and Lotion (pH 4.6).

now low-cost steroid topicals help insure sustained improvement without setbacks

new 1/8% Cort-Dome®

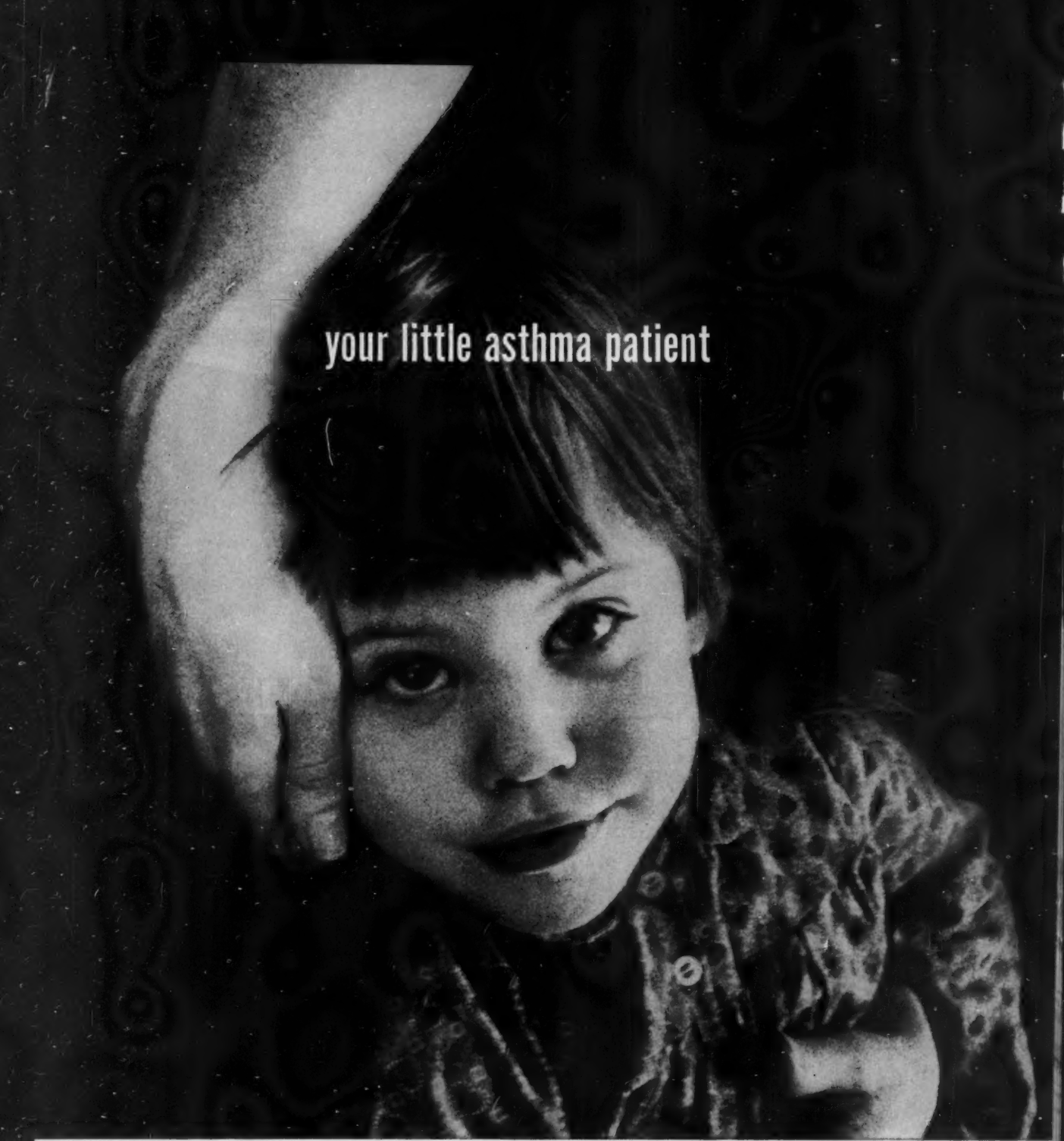
Creme • Lotion (pH 4.6)

micro-dispersed hydrocortisone alcohol in Acid Mantle* for economical long-term therapy

IMPROVED PROCESS PERMITS EFFICIENT DOSAGE REDUCTION Once the dermatosis is brought under control with higher steroid concentrations, new ⅛% Cort-Dome, potentiated by the micro-dispersion of hydrocortisone in its Acid Mantle vehicle, can help insure therapeutic success—with less likelihood of flare-ups—until the skin's natural defenses are restored. The markedly lower cost of ⅛% Cort-Dome adds assurance that the patient will continue therapy as directed.

CORT-DOME—Tailored Steroid Topicals For individualized therapy and unique versatility in control of dermatologic problems at reasonable cost, Cort-Dome is supplied in a wide choice of concentrations: 2%, 1%, and ½% to initiate therapy; ¼% and new ⅛% for maintenance therapy. When infection is a consideration, Neo-Cort-Dome* provides neomycin sulfate 5 mg./Gm. in the same formulations at no extra cost.

WORLD LEADER IN DERMATOLOGICALS
DOME CHEMICALS INC.
New York 23, New York



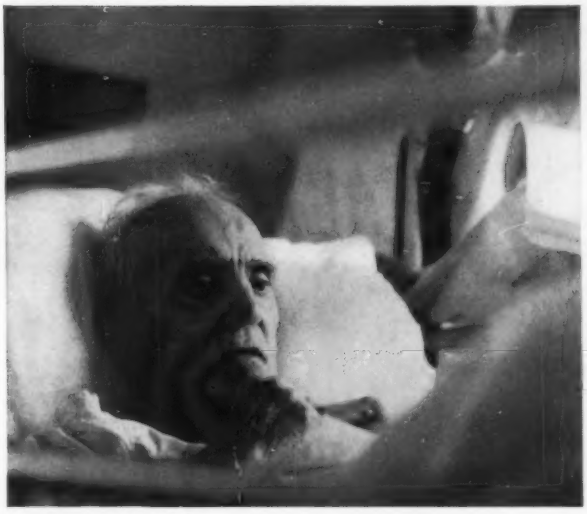
...needs "air in a hurry," and you can provide it with a single, convenient tablet of NEPHENALIN® PEDIATRIC. Placed under the tongue, NEPHENALIN PEDIATRIC releases isoproterenol HCl, 5 mg., potent epinephrine homologue, to open the airway with utmost speed. Swallowed, the small square red tablet gives the child sustained asthma relief with the well-known, reliable combination of theophylline (1½ gr.), ephedrine (3/16 gr.) and phenobarbital (⅛ gr.). NEPHENALIN PEDIATRIC is available for your prescription in bottles of 50 tablets. Also available: NEPHENALIN (for adults).

THOS. LEEMING & CO., INC., NEW YORK 17, NEW YORK.

Nephenalin®

PEDIATRIC

INOPERABLE MAMMARY CARCINOMA



SEVERE DEBILITY

UNDERWEIGHT CHILDREN

The broad usefulness of long-acting anabolic therapy with Durabolin®

DURABOLIN (nandrolone phenpropionate) is a potent long-acting anabolic stimulant. In many types of illness and injury, DURABOLIN helps speed recovery by reversing catabolic processes, rapidly establishing positive nitrogen balance. A single intramuscular injection weekly or bi-weekly for 12 weeks provides effective anabolic stimulation with little risk of virilizing or hepatotoxic effects. And, because long-acting DURABOLIN is given parenterally, you can be certain your patient has received the correct dose, observe his progress directly.

Dosage: Adults: 50 mg., then 25 to 50 mg., i.m., weekly for twelve weeks. Children: 2-13 years—25 mg., i.m., every 2 to 4 weeks. Infants: half children's dose.

Supplied: DURABOLIN (25 mg./cc.) 5-cc. vials, 1-cc. ampuls (box of 3). DURABOLIN-50 (50 mg./cc.) 2-cc. vials.

Organon Inc., Organon **West Orange, N. J.**

OSTEOPOROSIS

BEFORE AND AFTER SURGERY

IN BRONCHIAL ASTHMA..."MARKED INCREASE IN VITAL CAPACITY..."*

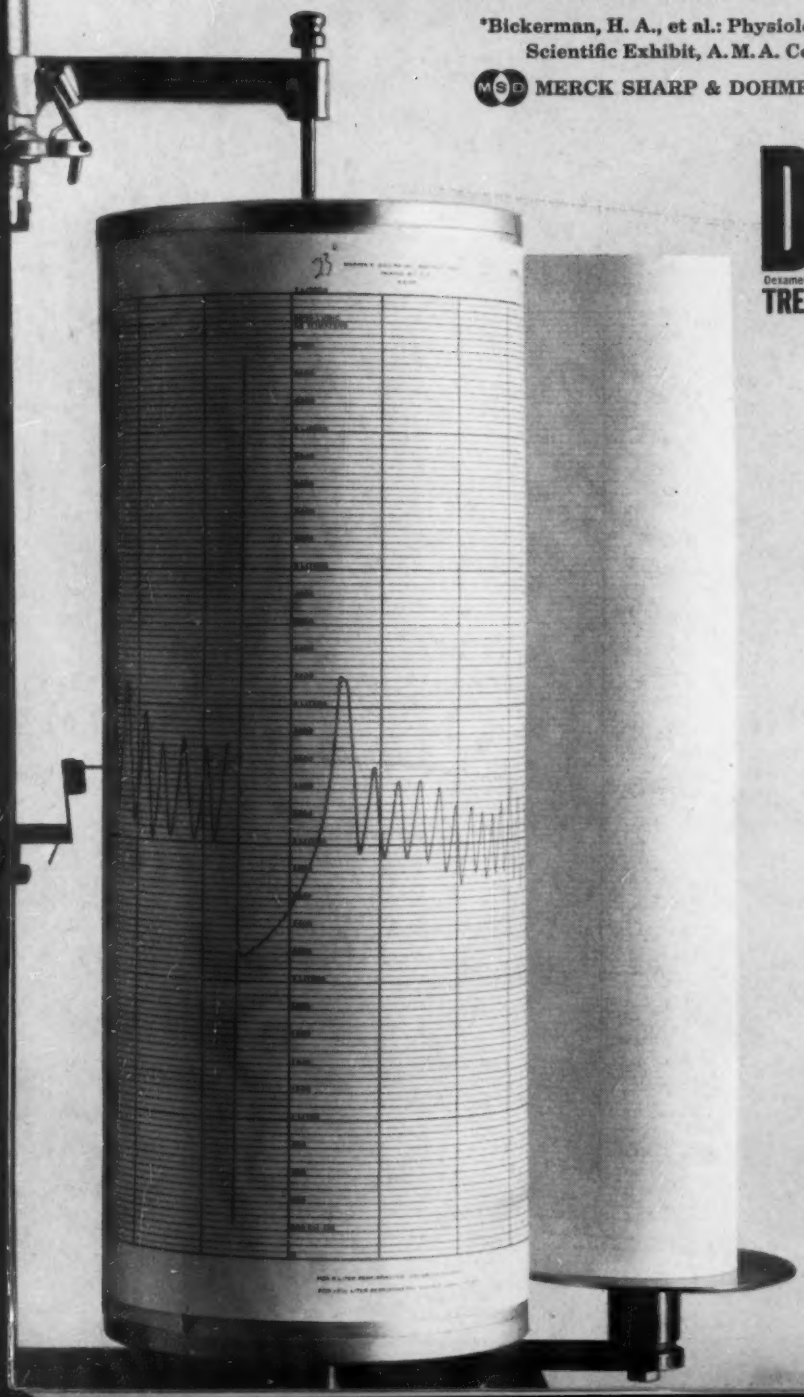
objective evidence of relief

Dexamethasone produced moderate to excellent improvement in 85 per cent of 143 patients with bronchial asthma and pulmonary emphysema. Objective evidence of antiasthmatic effects: "Marked Increase in Vital Capacity and Maximum Breathing Capacity"*..."Increased Efficiency in The Air Flow Dynamics of Maximal Cough."*

Supplied: as 0.75 mg. and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100. Also available as Injection DECADRON Phosphate and new Elixir DECADRON. Additional information on DECADRON is available to physicians on request. DECADRON is a trademark of Merck & Co., Inc.

*Bickerman, H. A., et al.: Physiologic and steroid therapy in respiratory disease, Scientific Exhibit, A.M.A. Convention, Atlantic City, N. J., June 8-12, 1959.

MERCK SHARP & DOHME Division of Merck & Co., INC., West Point, Pa.



Decadron®
Dexamethasone
TREATS MORE PATIENTS MORE EFFECTIVELY